SPECIAL PROVISIONS

ROUTE 9 & CR 524
INTERSECTION IMPROVEMENTS
CONTRACT NO. 178970242
FREEHOLD TOWNSHIP MONMOUTH COUNTY

AUTHORIZATION OF CONTRACT

The Contract for this Project is authorized by the provisions of Title 27 of the Revised Statutes of New Jersey and supplements thereto, and Title 23 of the United States Code - Highways.

SPECIFICATIONS TO BE USED

The 2001 Metric Standard Specifications for Road and Bridge Construction, of the New Jersey Department of Transportation as amended herein will govern the construction of this Project and the execution of the Contract.

These Special Provisions consist of the following:

Pages 1 to 67 inclusive for General, Road, and Bridge Provisions.

State of New Jersey Equal Employment Opportunity for Contracts Funded by Wholly State Funds, pages 1 to 4 inclusive, dated April 2003.

Payroll Requirements for 100 Percent State Projects, dated December 1986, revised September 1992.

Americans with Disabilities Act for 100 Percent State Funded Contracts, page 1, dated August 1993.

Equal Employment Opportunity Special Provisions Construction Contracts Funded by Wholly State Funds, pages 1 to 10 inclusive, dated April 2003.

Minority/Female Outreach and Training Program for Wholly State Funded Projects attachment, dated September 7, 1999.

Environmental Hazards Abatement, Pages 1 thru 27.

The Contractor shall pay the minimum wage rates determined by the New Jersey Department of Labor.

State wage rates may be obtained from the New Jersey Department of Labor (Telephone: 609-292-2259) or by accessing the Department of Labor's web site at http://www.nj.gov/labor/lsse/lspubcon.html The State wage rates in effect at the time of award will be made a part of this Contract, pursuant to Chapter 150, Laws of 1963 (NJSA 34:11-56.25, *et seq.*).

In the event it is found that any employee of the Contractor or any subcontractor covered by the Contract, has been paid a rate of wages less than the minimum wage required to be paid by the Contract, the State may terminate the Contractor's or subcontractor's right to proceed with the Work, or such part of the Work, as to which there has been a failure to pay required wages and to prosecute the Work to completion or otherwise. The Contractor and its sureties shall be liable to the State for any excess costs occasioned thereby.

INFORMATION ONLY

DIVISION 100 - GENERAL PROVISIONS

SECTION 101 - GENERAL INFORMATION

101.03 Terms.

THE TERM "EXTREME WEATHER CONDITIONS" IS CHANGED TO:

EXTREME WEATHER CONDITIONS. When, solely as a result of adverse weather, the Contractor is not able to work, the Contractor is entitled to claim that progress of the Work has been affected by extreme weather conditions and may seek an extension of Contract Time consistent with the provisions of Subsection 108.11.

THE FOLLOWING IS ADDED:

PARCEL. Property to be acquired for transportation purposes, described by metes and bounds.

101.04 Inquiries Regarding the Project.

Inquiries regarding the various types of work of this Contract shall be directed to the following representatives of the Department having offices at P.O. Box 600, Trenton, New Jersey 08625, or such other individuals as may hereafter be designated:

1. **Before Award of the Contract.** All inquiries shall be directed to Bureau Quality Assurance at P.O. Box 600, Trenton, New Jersey 08625.
   Telephone: 609-530-3810, (Rick Hewitson)
   Fax: 609-530-3853.

   All inquiries shall include the following:
   a. Name of the company;
   b. Telephone number, fax number, and contact person; and
   c. Specifics of the inquiry, including anticipated impacts.

   The Department will investigate the information provided in the inquiry and then respond through an addendum only if determined to be necessary.
2. **After Award of the Contract.** All inquiries shall be directed to the Resident Engineer through the following Regional Construction Office:

   Central
   Mr. Thomas J. Dowd, Regional Construction Engineer
   100 Daniels Way
   Freehold, NJ 07728
   Telephone: 732-308-4074

SECTION 102 - BIDDING REQUIREMENTS AND CONDITIONS

102.06 Examination of Contract Documents and Site of Project.

1. Investigation of Subsurface and Surface Conditions.

THE SECOND SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Where such investigations have been made, Bidders may, upon written request, inspect the records and reports of the Department as to such investigations subject to and upon the conditions set forth herein.

THE FOLLOWING IS ADDED AFTER THE SECOND PARAGRAPH:

Geotechnical Engineering Design Reports, if reports are prepared, are parts of the design information made available. Such reports that are prepared for design purposes were designed with reasonable care and in good faith. The analyses and recommendations submitted in these reports are based in part upon the data obtained from subsurface explorations. The nature and extent of variations between these explorations may not become evident until construction. If variations then appear evident, it will be necessary to reevaluate the recommendations of these reports.

If a generalized soil profile is described in the text it is intended to convey trends in subsurface conditions. The boundaries between strata are approximate and idealized and have been developed by interpretations of widely spaced explorations and samples; actual soil transitions may vary. For specific information, refer to the boring logs.

These reports have been prepared for the exclusive use of the New Jersey Department of Transportation for specific application to this project in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made.

These reports are for design purposes only and are not sufficient to prepare an accurate bid. Contractors may review these reports with the understanding that their scope is limited to design considerations only.

These reports may contain comparative cost estimates for the purpose of evaluating alternative foundation schemes. These estimates may also involve approximate quantity evaluations. It should be noted that quantity estimates might not be accurate enough for construction bids.

The accuracy of cost estimates as compared to contractor's bids for construction costs is not guaranteed. There is no warranty or guaranty, wither expressed or implied, that the conditions indicated in these reports are representative of those existing throughout the project, or any part thereof, or that unlooked-for development may not occur, or that soil properties other than, or at variance with those indicated, may not exist.

THE FOLLOWING IS ADDED TO THE THIRD PARAGRAPH:

Geotechnical Engineering Design Reports may be inspected at the Department's plan file at the same address.

THE EIGHTH PARAGRAPH IS CHANGED TO:

Information derived from such inspection of records of investigations and reports or compilation thereof made by the Department, the Consultant, or assistants, does not relieve the Bidder or Contractor from any risk or from properly fulfilling the terms of the Contract.

6. Existing Structures.

THE FIRST SENTENCE IS CHANGED TO:

A list of existing structures within the Project is provided on the Plans.

SECTION 105 - CONTROL OF WORK

105.09 Cooperation with Utilities.

THE FOLLOWING IS ADDED AFTER THE FIRST PARAGRAPH:

The corporations, companies, agencies, or municipalities owning or controlling the utilities, and the name, title, address, and telephone number of their local representative are as listed below:

ELECTRIC

Mr. Alan Criscenzi, Group Leader
Jersey Central Power and Light Co. d/b/a/ GPU Energy
525 Main Street
Allenhurst, NJ 07711
Telephone: 732-695-5506
Mr. Fred Corcione, Layout Tech., Sr.
Telephone: 732-695-5715

TELECOMMUNICATION

Mr. Bruce Stanley, Staff Manager – Joint Use ROW
Verizon – NJ, Inc.
540 Broad Street, Room 1004
Newark, NJ 07101
Telephone: 973-649-3007
Mr. Jeffrey S. Booth, OSP Engineer
Telephone: 732-751-8719

GAS

Mr. John B. Wyckoff, P.E. Manager Engineering
New Jersey Natural Gas Company
1415 Wyckoff Road
Wall, NJ 07719
Ms Tamara H. Brown, Design Engineer
Telephone: 732-938-1179

CABLE

Comcast Cablevision of Monmouth
Mr. Paul R. Kostyz, Designer
40 Pine Street
Tinton Falls, NJ 07753
Telephone: 732-681-8222, Ext. 3285

WATER

Township of Freehold
Mr. Robert Koches, Superintendent
One Municipal Plaza
Freehold, NJ 07728
Telephone: 732-294-2170

SANITARY SEWER

Township of Freehold
Mr. Robert Koches, Superintendent
One Municipal Plaza
Freehold, NJ 07728
Telephone: 732-294-2170

Bidders are advised to verify the above information as its accuracy and completeness is not guaranteed by the Department.

Utility Work and Time Frames

General Notes:

1. State's resident engineer will provide the utility with the notices called for in the schedules.
2. State will provide the utility with survey control. The State and the utility shall jointly verify the location of the facilities prior to installation.
3. Poles shall be placed as close to the right-of-way as practical, minimum of 0.5m(18") from face of curb to face of pole.
4. Utility schedules are estimated time frames for this utility owner only and do not include work performed by other utility owners sharing joint facilities.
5. Utility schedules are based on the projected traffic control and staging plan for each utility mobilization. Utility service demands, field and weather conditions may alter these schedules. State (contractor) changes to the traffic control and staging require reestablishing utility schedules.
6. Where joint facilities are proposed, the utility shall coordinate its work with the joint owners.
7. Existing facilities can only be removed after the relocated facilities have been installed and are in operation.

7. Distances, stations, offsets, lengths or units on the utility plans are approximate (plus or minus).

Jersey Central Power and Light Co. d/b/a/ GPU Energy – Electric

Existing Facilities
Aerial Primary and Secondary

Work to be performed by Utility

1. Rte. 9 SB Sta. 178+860LT, 15M(Pole #LC872FT) to Sta. 179+034LT, 12M(Pole #BT7FT). Install 2 poles. Construct 13KV primary circuit on 2 poles installed by GPU and 2 poles installed by Verizon.

2. Rte. 9 SB Sta. 178+860LT, 15M(Pole #LC872FT) to Sta. 179+034LT,12M (Pole #BT7FT). Remove abandoned aerial facilities and poles.

Schedule: 1 & 2 Utility requires 6 weeks notice and 10 working days to do the work.

3. County Road 524 Sta. 10+400LT(Pole #JC649FT) running along northerly curb line to Rte 9 NB Sta. 179+520RT,13M(Pole #JC627FT). Install eighteen (19) poles. Construct 13KV primary and secondary circuits on 19 poles installed by GPU and 1 pole installed by Verizon.

4. County Road 524 Sta. 10+400LT(Pole #JC649FT) running along northerly curb line to Rte 9 NB Sta. 179+520RT, 13M (Pole #JC627FT). Remove abandoned aerial facilities and poles.

Schedule: 3 & 4 Utility requires 6 weeks notice and 20 working days to do the work.

5. County Road 524 Sta. 10+264LT, 8M(Pole #JC645FT) to Sta. 10+252LT, 30M(Pole #JC2993) located on Bar Harbor Road. Relocate 13KV primary circuit on pole installed by GPU.

Schedule: 5 Utility requires 6 weeks notice and 5 working days to do the work.

6. County Road 524 Sta. 10+182RT, 4M(Pole #JC642FT) to Sta. 10+160RT, 35M(Pole #JC3872FT). Construct 13KV primary circuit.

7. County Road 524 Sta. 10+182RT, 4M(Pole #JC642FT) to Sta. 10+160RT, 35M(Pole #JC3872FT). Remove abandoned aerial facilities and poles.

Schedule: 6 & 7 Utility requires 6 weeks notice and 10 working days to do the work.

8. Rte. 9 SB Baseline Sta. 179+034LT, 12M(Pole #BT7FT) to Rte 9 NB Baseline Sta. 179+075RT, 13M(Pole #JC637FT). Install two (2) poles and construct 13KV primary feeder on poles installed by GPU and Verizon.

9. Rte. 9 SB Baseline Sta. 179+034LT, 12M(Pole #BT7FT) to Rte 9 Baseline NB Sta. 179+075RT, 13M(Pole #JC637FT). Remove abandoned aerial facilities and poles.

Schedule: 8 & 9 Utility requires 6 weeks notice and 10 working days to do the work.

Note: a. Conductors to clear traffic signals and street lighting.

b. Lighting arm will be 8M(27') above road surface.

10. Rte. 9 SB Baseline Sta. 179+280LT, 15M(Pole #BT1FT) to Rte 9 NB Baseline Sta. 179+280RT, 11M(Pole #BT116FT). Construct 13KV primary and secondary feeders on poles installed by Verizon.

11. Rte. 9 SB Baseline Sta. 179+280LT, 15M(Pole #BT1FT) to Rte 9 NB Baseline Sta. 179+280RT, 11M(Pole #BT116FT0. Remove abandoned aerial facilities and poles.

Schedule: 10 & 11 Utility requires 6 weeks notice and 20 working days to do the work.

12. County Road 524 Sta. 9+922LT, 9M(Pole#JC1606FT) to Sta. 9+460LT, 7M(Pole#BT90020FT). Install 9 poles, Construct 13KV primary and secondary circuits on 3 poles installed by GPU and 6 poles installed by Verizon.

13. County Road 524 Sta. 9+922LT, 9M(Pole#JC1606FT) to Sta. 9+460LT, 7M(Pole#BT90020FT). Remove abandoned aerial facilities.

Schedule: 12 & 13 Utility requires 6 weeks notice and 20 working days to do the work.

14. County Road 524 Sta. 9+830LT, 7M(Pole#JC264FT) to Pole#JC3746FT. Construct 13KV primary circuit on poles installed by GPU.

15. County Road 524 Sta. 9+830LT, 7M(Pole#JC264FT) to Pole#JC3746FT. Remove abandoned aerial facilities.

Schedule: 14 & 15 Utility requires 6 weeks notice and 5 working days to do the work.

16. Jackson Mill Road Sta. 1+320RT, (Pole no number) to Sta. 1+143RT, 6M(Pole#BT90012FT). Install 2 poles. Construct 13KV primary and secondary circuits on 2 poles installed by Verizon.

17. Jackson Mill Road Sta. 1+320RT, (Pole no number) to Sta. 1+143RT, 6M(Pole#BT90012FT). Remove abandoned facilities.

Schedule: 16 & 17 Utility requires 6 weeks notice and 10 working days to do the work.

Note: a. Conductors to clear traffic signals and street lighting.
b. Lighting arm will be 8M(27') above road surface.

Verizon – New Jersey, Inc. (Telecommunications)

Existing Facilities

Aerial copper and fiber cables within the project limits

Work to be performed by Utility.

1. Rte. 9 SB Sta. 178+860LT, 15M(Pole #JC872FT) to Sta. 179+280LT, 15M(Pole #BT1FT). Construct 400 pair, 24 gauge copper cable on 2 poles installed by GPU and 6 poles installed by Verizon.

Note: a. Conductors to clear traffic signals and street lighting.
b. Lighting arm will be 8M(27') above road surface.

2. Rte. 9 SB Sta. 178+860LT, 15M(Pole #JC872FT) to Sta. 179+280LT, 15M(Pole #BT1FT). Remove abandoned aerial facilities and poles.

Schedule: 1 & 2 Utility requires 3 weeks notice and 5 working days to do work.

3. Rte. 9 SB Sta. 179+280LT, 14M(Manhole) to Rte. 9 NB Sta. 179+280LT, 11M(Pole#BT116FT). Extend riser 3-100mm diameter PVC conduit and new riser.

4. Rte 9 NB Sta. 179+422LT, 22M(Pole#BT102FT) to Sta. 179+422RT, 11M (Pole #JC629FT). Construct 100 pair, 24 gauge copper cable on poles installed by GPU.

5. Rte 9 NB Sta. 179+422LT, 22M(Pole#BT102FT) to Sta. 179+422RT, 11M (Pole #JC629FT). Remove abandoned aerial facilities and poles.

Schedule: 3, 4, & 5 Utility requires 3 weeks notice and 5 working days to do work.

6. County Rte. 524 Sta. 9+461LT, 6M(Pole #BT90020) to Sta. 9+546LT, 6M(Pole #BT90018). Install 3 poles. Construct 100 pair, 24 gauge copper cable, 600pair, 24 gauge copper cable, 1800 pair, 24 gauge copper cable and 72 fiber optic cable.

7. County Rte. 524 Sta. 9+461LT, 6M(Pole #BT90020) to Sta. 9+546LT, 6M(Pole #BT90018). Remove abandoned aerial facilities and poles.

8. County Rte. 524 Sta. 9+546LT, 6M(Pole #BT90018) to Sta. 9+725LT, 6M(Pole #BT90014). Install 4 poles. Construct 300 pair, 24 gauge copper cable, 600 pair, 24 gauge copper cable, 1800 pair, 24 gauge copper cable and 72 fiber optic cable.

Note: a. Conductors to clear traffic signals and street lighting.
b. Lighting arm will be 8M(27') above road surface.

9. County Rte. 524 Sta. 9+546LT, 6M(Pole #BT90018) to Sta. 9+725LT, 6M(Pole #BT90014). Remove abandoned aerial facilities and poles.

Schedule: 6, 7, 8 & 9 Utility requires 3 weeks notice and 15 working days to do the work.

10. County Rte 524 Sta. 9+725LT, 6M(Pole #BT90014) to Sta. 9+883RT, 8M(Pole #JC1355). Construct 200 pair, 24 gauge copper cable on poles installed by GPU.

Note: a. Conductors to clear traffic signals and street lighting.
b. Lighting arm will be 8M(27') above road surface.

11. County Rte 524 Sta. 9+725LT, 6M(Pole #BT90014) to Sta. 9+883RT, 8M(Pole #JC1355). Remove abandoned aerial facilities and poles.

12. County Rte 524 Sta. 9+883RT, 8M(Pole # JC1355) to Sta. 9+922RT, 9M(Pole #JC1606). Relocate 50 pair, 24 gauge copper cable to pole installed by GPU.

Schedule: 10, 11 & 12 Utility requires 3 weeks notice and 5 working days to do the work.

13. Jackson Mills Road Sta. 1+165LT, 6M(Pole #BT90012) to County Route 524 Sta. 9+725LT, 6M(Pole #BT90014). Install 2 poles. Construct 200 pair, 24 gauge copper cable.

14. Jackson Mills Road Sta. 1+165LT, 6M(Pole #BT90012) to County Route 524 Sta. 9+725LT, 6M(Pole #BT90014). Remove abandoned facilities

15. Jackson Mills Road Sta. 1+276RT, 4M(Pole #BT90035). Install 1 pole. Extend 2-100mm to pole relocated by Verizon.

Schedule: 13, 14 & 15 Utility requires 3 weeks notice and 10 working days to do the work.

16. Jackson Mills Road Sta. 1+215LT, 6M. Reset manhole casting to proposed grade.

Schedule: 16 Utility requires 3 weeks notice and 5 working days to do the work.

17. Rte. 9 SB Sta. 179+009LT, 12M(2 manholes), Sta. 179+013LT, 18M(4 Manholes) and Sta. 179+277LT, 15M(4 Manholes). Reset manhole castings to proposed grade.

Schedule: 17 Utility requires 3 weeks notice and 5 working days to do the work.

18. County Route 524 Sta. 10+360LT(Pole #JC647FT) to Sta. 10+160RT(Pole #JC3872FT). Construct 50 pair, aerial cable.

19. County Route 524 Sta. 10+360LT(Pole #JC647FT) to Sta. 10+160RT(Pole #JC3872FT). Remove abandoned aerial facilities.

Schedule: 18 & 19 Utility requires 3 weeks notice and 5 working days to do the work.

20. Rte. 9 SB Sta. 178+590RT(existing manhole) to Sta. 179+275LT(existing manhole). Construct 18-100mm(4") PVC duct bank, cables and 3 manholes.

21. Rte. 9 SB Sta. 178+590RT(existing manhole) to Sta. 179+275LT(existing manhole). Abandon existing underground facilities.

22. County road 524 Sta. 10+160LT(existing manhole) to Rte. 9 SB Sta. 170+010RT(new manhole). Construct 8-100mm(4") PVC duct bank cables.

23. County road 524 Sta. 10+160LT(existing manhole) to Rte. 9 SB Sta. 170+010RT(new manhole). Abandon existing underground facilities.

Schedule: 20, 21, 22, & 23 Utility requires 4 weeks notice and 60 working days to do the work.

New Jersey Natural Gas Company

Existing Facilities

Gas main, valves and appurtenances are within the project limits.

Work to be performed by Utility.

1. Rte. 9SB Sta. 179+275LT, 17M, along Jackson Mills Road to Sta. 1+280RT, 7M. Construct Pressure Regulator Station and appurtenances. Construct 100 mm (4") steel gas main. Construct 152mm(6") plastic gas main. Relocate house services.

2. Jackson Mills Road Sta. 1+060RT, 4M to Sta. 1+280RT, 7M. Cut, purge, plug, and abandon existing 100mm(4") steel gas main.

Schedule: 1 & 2 Utility requires 4 weeks notice and 40 working days to do work.

Note: Item 2 to be done only after new 152mm(6") plastic gas main, Pressure Regulator Station and house services are complete and in operation.

3. Rte. 9 SB Sta. 178+925LT, 15M to County Road 524 Sta. 10+150RT, 20M. Construct 203mm (8") steel gas main. Portion under Rte. 9 N&SB shall be installed by directional drilling method. Construct 1.2Mx1.2M valve pit and install 203mm(8") gas valve and appurtenances.

4. Rte. 9 SB Sta. 178+840LT, 15M to Sta. 179+275LT, 17M. Construct 203mm(8")steel gas main. Construct 100mm(4") steel gas main. Construct 2 – 1.2Mx1.2M valve pits and install 2 – 203mm(8") gas valves and appurtenances.

5. Rte 9 SB Sta. 178+994LT, 18M to County Road 524 Sta. 10+150RT, 20M. Cut, purge, plug, and abandon only after the 203mm(8") and 100mm(4") gas mains have been relocated and in operation.

Schedule: 3, 4 &5 Utility requires 4 weeks notice and 60 working days to do work.

6. Rte. 9 SB Sta. 179+030LT, 3M. Abandon Pressure Regulator Station only after new Pressure Regulator Station, new 203mm(8") and 100mm(4") gas mains are complete and in operation. to Sta. 0+065. Lower 150mm steel gas main.

7. Rte. 9 SB Sta. 178+840LT, 15M to Sta. 179+275LT, 17M. Cut, purge, plug, and abandon existing 203mm(8") and 100mm(4") steel gas main.

8. County Road 524 Sta. 9+970 to 9+775 and along the ramp to be abandoned. Cut, purge, plug, and abandon existing 50mm(2") steel gas main.

9. County Road 524 Sta. 9+775RT, 2M to new gas main installed at Rte. 9 Sta. 9+970RT, 2M. Construct 100mm(4") steel gas main.

Schedule: 6, 7, 8 & 9 - Utility requires 4 weeks notice and 50 working days to do work.

Comcast Cablevision of New Jersey – Cable

Existing Facilities

Aerial coaxial, fiber and strand within the project limits.

Work to be performed by Utility.

1. Rte. 9 SB Sta. 178+860LT, 15M(Pole #JC872FT) to County Road 524 Sta. 9+922RT, 9M(Pole #JC1606FT). Construct 1-21.5mm coaxial cable and 6.25mm(1/4") strand on poles installed by GPU and Verizon.

2. Rte. 9 SB Sta. 178+860LT, 15M(Pole #JC872FT) to County Road 524 Sta. 9+922RT, 9M(Pole #JC1606FT). Remove abandoned aerial facilities.

Schedule: 1 and 2 Utility requires 4 weeks notice and 15 working days to do work.

3. County Road 524 Sta. 9+922RT, 9M(Pole #JC1606FT) to Sta. 9+725LT, 10M(Pole #BT90014FT). Construct 1-21.5mm(.875") coaxial cable, 1-16.25mm(.650") coaxial cable and 6.25mm(.250") strand on poles installed by GPU.

Note: a. Conductors to clear traffic signals and street lighting.
b. Lighting arm will be 8M(27') above road surface.

4. County Road 524 Sta. 9+922RT, 9M(Pole #JC1606FT) to Sta. 9+725LT, 10M(Pole #BT90014FT). Remove abandoned aerial facilities.

Schedule: 3 and 4 Utility requires 4 weeks notice and 15 working days to do work.

5. County Road 524 Sta. 9+975LT, 10M(Pole #BT90014FT) to Sta. 9+788LT, 7M(Pole #BT90015FT). Construct 1 fiber cable, 1-21.5mm(.875") coaxial cable, 1-16.25mm(.650") coaxial cable, 1-12.5mm(.500") coaxial cable and 6.25mm(.250") strand on poles installed by Verizon.

Note: a. Conductors to clear traffic signals and street lighting.
b. Lighting arm will be 8M(27') above road surface.

6. County Road 524 Sta. 9+975LT, 10M(Pole #BT90014FT) to Sta. 9+788LT, 7M(Pole #BT90015FT). Remove abandoned aerial facilities.

Schedule: 5 and 6 Utility requires 4 weeks notice and 5 working days to do work.

7. County Road 524 Sta. 9+788LT, 7M(Pole #BT90015FT) to Sta. 9+588LT, 6M(Pole #BT90017FT). Construct 1 fiber cable, 1-21.5mm(.875") coaxial cable, 1-12.5mm(.500") coaxial cable and 6.25mm(.250") strand on poles installed by Verizon.

Schedule: 7 Utility requires 4 working days notice and 15 working days to do work.

8. County Road 524 Sta. 9+788LT, 7M(Pole #BT90015FT) to Sta. 9+588LT, 6M(Pole #BT90017FT). Remove abandoned aerial facilities.

Schedule: 7 and 8 Utility requires 4 weeks notice and 15 working days to do the work.

9. County Road 524 Sta. 9+588LT, 6M(Pole #BT90017FT) to Sta. 9+460LT, 6M(Pole #BT90020FT). Construct 1 fiber cable, 1-21.5mm(.875") coaxial cable, 1-16.25mm(.650"), 1-12.5mm(.500") coaxial cable and 6.25mm(.250") strand on poles installed by Verizon.

Schedule: 9 Utility requires 4 working days notice and 15 working days to do work.

10. County Road 524 Sta. 9+588LT, 6M(Pole #BT90017FT) to Sta. 9+460LT, 6M(Pole #BT90020FT). Remove abandoned aerial facilities.

Schedule: 9 and 10 Utility requires 4 working days notice and 15 working days to do work.

11. County Road 524 Sta. 9+725LT, 10M(Pole #BT90014FT) to Jackson Mills Road Sta. 1+320RT(Pole not shown). Construct 1 fiber cable, 1-21.5mm(.875") coaxial cable, 1-18.75mm(.750") coaxial cable, 2-16.25mm(.650") coaxial cables, 1-12.5mm(.500") coaxial cable and 6.25mm(.250") strand on poles installed by Verizon.

Note: a. Conductors to clear traffic signals and street lighting.
b. Lighting arm will be 8M(27') above road surface.

12. County Road 524 Sta. 9+725LT, 10M(Pole #BT90014FT) to Jackson Mills Road Sta. 1+320RT(Pole not shown). Remove abandoned aerial facilities.

Schedule: 11and 12 Utility requires 4 working days notice and 15 working days to do work.

13. County Road 524 Sta. 9+725LT, 10M(Pole #BT90014FT) to Sta. 1+143RT, 6M(Pole #BT90012FT). Construct 1-18.75mm(.750") coaxial cable, 1-16.25mm(.650"), 1-12.5mm(.500") coaxial cable and 6.25mm(.250") strand on poles installed by Verizon.

Note: a. Conductors to clear traffic signals and street lighting.
b. Lighting arm will be 8M(27') above road surface.

14. County Road 524 Sta. 9+725LT, 10M(Pole #BT90014FT) to Sta. 1+143RT, 6M(Pole #BT90012FT). Remove abandoned aerial facilities.

Schedule: 13and 14 Utility requires 4 working days notice and 15 working days to do work.

15. Rte. 9 SB Sta. 179+111LT, 13M(Pole #BT5FT) to Sta. 179+520RT, 13M(Pole #JC627FT). Construct 1-16.25mm(.650") coaxial cable and 6.25mm(.250") strand on poles installed by GPU and Verizon.

16. Rte. 9 SB Sta. 179+111LT, 13M(Pole #BT5FT) to Sta. 179+520RT, 13M(Pole #JC627FT). Remove abandoned aerial facilities.

Schedule: 15and 16 Utility requires 4 working days notice and 15 working days to do work.

17. County Road 524 Sta. 10+360LT(Pole #JC647FT) to Sta. 10+159RT, 35M(Pole #JC3872FT). Construct 1-16.25mm(.650") coaxial cable and 6.25mm(.250") strand on poles installed by GPU.

18. County Road 524 Sta. 10+360LT(Pole #JC647FT) to Sta. 10+159RT, 35M(Pole #JC3872FT). Remove abandoned aerial facilities.

Schedule: 17and 18 Utility requires 4 working days notice and 15 working days to do work.

Township of Freehold – Water

Existing facilities

203mm(8") and 400mm(16") water mains, fire hydrants and appurtenances within the project limits.

Work to be performed by the State (Contractor).

1. Rte. 9 NB Sta. 179+286RT, 13M to County Road 524 Sta. 10+370LT, 2.5M. Install 400mm(16") tapping sleeve and valve at County Road 524 Sta. 10+350LT, 2.5M and construct 400mm(16") CLDIP water main.

2. Rte. 9 NB Sta. 179+286RT, 13M to County Road 524 Sta. 10+37LT, 2.5M. Cut, plug and abandon existing water main.

3. County Road 524 Sta. 10+360LT to County Road Sta. 10+360RT. Verify location of the 203mm(8") water main, install 203mm(8") tapping sleeve and valve, construct 203mm(8") CLDIP water main, install 203mm(8") gate valve and connect to the new 400mm(16") water main.

4. County Road 524 Sta. 10+360LT to County Road Sta. 10+360RT. Cut, plug and abandon existing water main.

5. County Road 524 Sta. 10+240LT(at Bar Harbor Road). Install 250mm(10") tapping sleeve and valve construct 250mm(10") water main and connect to the new 400mm(16") water main.

6. County Road 524 Sta. 10+240LT. Cut, plug and abandon existing water main.

7. County Road 524 Sta. 10+149 Reconnect existing 37.5mm(1.5") water service to the new 400mm(16") water main.

8. County Road 524 Sta. 9+836LT, 7M,and Sta. 10+300LT, 6M and Rte. 9 NB Sta. 179+177RT, 13M. Relocate three (3) fire hydrants.

9. County Road 524 Sta. 9+836LT,6M, Sta. 9+746LT, 7M, Sta. 9+729LT, 5M, Sta. 9+713LT, 5M, Sta. 9+240LT, 10M and Sta. 10+368RT, 2m. Rte 9 NB Sra. 179+420RT, 4M,Sta. 179+417RT, 4M, Sta. 179+293RT, 12M and Sta. 179+286RT, 13M. Reset ten(10) water valve boxes to proposed grade.

Schedule 1 – 9 to be performed in a manner with the State's overall construction project.
Note: There will be no shut down of existing water facilities.

Work to be performed by the Township of Freehold.

Inspection of facilities constructed by the State's contractor.
Schedule: Township of Freehold requires 2 week notice.

10. County Road 524 Sta. 10+360RT, 11M install fire hydrant.
Schedule: Township of Freehold requires 2 weeks notice and 5 working days to do the work.

Township of Freehold – Sanitary Sewer.

Existing facilities

203mm(8") sanitary sewer mains and manholes within the project limits.

Work to be performed by the State (Contractor).

1. County Road 524 Sta. 10+244LT, 8M, Sta. 9+548RT, 9M, Sta. 9+673RT, 1M and Sta. 9+730 Reset sanitary sewer manhole castings to proposed grade.
Schedule: 1 to be performed in a manner with the State's overall construction project.

Work to be performed by the Township of Freehold.

Inspection of facilities constructed by the State's contractor.

Schedule: Township of Freehold requires 2 weeks notice.

THE FIRST SENTENCE OF PARAGRAPH 6 IS CHANGED TO:

Electrical and communications installations, constructed either before or as part of the Contract, shall be considered a utility and all provisions of this Subsection shall be applicable."

THE FOLLOWING IS ADDED TO END OF PARAGRAPH 6:

In addition to the requirements for various notifications to utility owners and the State's One Call System as noted in Paragraphs 1, 4, & 5 of this subsection, the contractor shall make separate such notifications to the

Department's Electrical Maintenance and Traffic Operations Bureaus where construction may impact or be adjacent their respective existing facilities. For above and underground electrical facilities involving traffic signals, highway lighting, and movable bridges notification shall be made to the Regional Bureau of Electrical Maintenance at the locations and telephone numbers indicated below. No Department-owned facilities as herein described shall be accessed, modified, removed, or disturbed in any manner, without first making such notifications

For all fiber optic underground conduit/cable and Intelligent Transportation Systems equipment (CCTV, Variable Message Signs, Radar Detectors, Highway Advisory Radio, etc.) installations, as well as electrical equipment serving those facilities, the contractor shall notify the ITS Maintenance Bureau at the appropriate Regional Traffic Operations offices and telephone numbers noted below.

ITS Maintenance Bureau
Traffic Operations North
670 River Drive
Elmwood Park, N.J. 07407
201-797-3575

Bergen, Hudson, Essex, Passaic, Union, Morris, Sussex, Warren, Middlesex, Somerset, and Hunterdon counties

ITS Maintenance Bureau
Traffic Operations South
1 Executive Campus-RT 70 West
Cherry Hill, N.J. 08002-4123
856-486-6650

Mercer, Monmouth, Ocean, Burlington, Atlantic, Camden, Gloucester, Salem, Cumberland, and Cape May counties

Bureau of Electrical Maintenance, North Region
200 Stierli Court
Mount Arlington, N.J.
973-770-5065

Bureau of Electrical Maintenance, Central Region
Rt 79 & Daniels Way
Freehold, N.J.
732-308-4086

Bureau of Electrical Maintenance, South Region
1 Executive Campus-RT 70 West
Cherry Hill, N.J. 08002-4123
856-486-6650

105.15 Field Office.

1. Construction Field Offices.

a. Type A.

THE FOLLOWING IS ADDED:

(1) Four multi-line touch-tone telephones and three telephone lines for use with the telephones installed as directed and operational in the Field Office and other facilities specified.

(a) Three dedicated, operational telephone lines for Fax machine and microcomputer systems modem use installed as directed in the Field Offices specified.

(b) Four portable hand held cellular phones. The cellular telephone plan shall provide for the anticipated usage of approximately 300 minutes per telephone per month. Each of the cellular phones shall have as a minimum the following features:

1) Home rate with no roaming charges within the entire state
2) 832 Channel Compatible
3) Mute Function
4) Back Light Display with Battery Saver
5) Signal Strength Indicator

6) Individual Call Length Timer
7) Full Lock Function
8) 30 Memory Number Feature
9) Low Battery Warning
10) 70 Minute Continuous Use
11) 12 hour Standby Mode
12) Alphanumeric Display
13) Transmission Power 0.6 Watt
14) Passive Repeating Antenna for Vehicle
15) Spare high capacity Battery Pack
16) Home Charging Station
17) Cigarette lighter power adapter /charger
18) AC charging station
19) Hands-Free headset

(c) Zero pager units. The number should be an exchange local to the Project. The units shall have the following features:

1) Lighted Alphanumeric Display
2) Tone and Vibrator Alert
3) High Sensitivity
4) Message Storage
5) Statewide Coverage
6) Exchange Local to Project
7) LCD Readout

(d) One telephone answering machine or Voice Mail service

(17) The microcomputer system shall include the following:

(a) Two base computer systems having at minimum:

1) Pentium IV Processor at 1.5 GHz or faster, Intel processor with MMX technology, with a 512 MB RAM, 32 MB Video RAM, mouse, mouse pad, 60 GB hard drive, one 52X DVD-ROM Drive, one CD-R Recordable Drive, and one 90-millimeter (3½-inch), 1.44 MB floppy diskette drive installed as the "A" drive.
2) 56K baud data/fax modem. (e.g., 3Com U.S. Robotics 56K Faxmodem, 3Com U.S. Robotics Courier V.Everything/V.34 - 56K ITU / x2 Technology, or Hayes Accura 56K).
3) One network card for each base computer system specified, when more than one base computer is specified
4) One Fast Ethernet Hub Switch with appropriate number of ports and cables (e.g., 3COM 100 Hub)
5) One dedicated telephone line to be used in conjunction with the microcomputer modem.
6) 483-millimeter (19-inch) or larger Super VGA color monitor having a dot pitch of 0.28, with anti-glare screen, and tilt/swivel capabilities.
7) 250-Megabyte Zip Drive internal or external with backup software for MS Windows and thirty 250-Megabyte formatted data cartridges corresponding to the tape drive size (e.g., Iomega Zip Drive or equivalent).
8) Uninterruptible power supply (UPS) - OMNI 1000 or approved equal (e.g., APC-1000 - American Power Corporation).
9) Surge protector for the entire computer workstation to be used in conjunction with the UPS (e.g., Zero Surge Power, Inc. - Point of Use - 2R-15 amp/120 volts).
10) Static mat, floor type, 1.2 by 1.5 meters or larger with grounding capabilities.
11) Computer workstation, printer stand, and/or table having both appropriate surface and chair height.
12) Five boxes of 90-millimeter (3½-inch) floppy diskettes that match the drive density of the 1.44-MB floppy diskette drive (ten per box).
13) 150 CD-R 700-MB (or larger) recordable CD's compatible to CD drive.
14) One floppy diskette holder (holds 50 floppy diskettes), and dust covers for the microcomputer, monitor, keyboard, and printer.
15) Two head cleaner kits for 90-millimeter (3½-inch) floppy diskette drive.

(b) One base printer having at minimum:

1) Laser printer having HP PCL 5 emulation, with a 64 Megabyte expanded memory, appropriate printer cable, and legal size tray (e.g., HP-2200 or equivalent).
2) One printer toner cartridge every other month for the duration of the construction project.
3) One 10-ream carton of 8½ X 11 inches size paper (500 sheets per ream, weight: 75 grams per square meter, color: white, grain: long, for laser printers and copiers) every two months for the duration of the construction project.
4) One 10-ream carton of legal size paper (500 sheets per ream, weight: 75 grams per square meter, color: white, grain: long, for laser printers and copiers) every three months for the duration of the construction project.

(c) One software package, on CD-ROM with documentation, including:
1) Microsoft Windows, latest version with future upgrades.
2) Microsoft Office Professional, latest version. Software package should contain the following: word processor, spreadsheet, and database.
3) Helix Nuts and Bolts Advanced Utilities for Windows, latest version, or compatible software package.
4) Anti-Virus software, latest version with monthly updates (e.g., Norton's Anti-Virus, McAffe Anti Virus, or Dr. Solomon's).
5) Visio Professional Graphics Software for Windows, latest version.

(d) One base printers for Primavera having at minimum:
1) Color Inkjet printer of current technology, with appropriate printer cable.
2) Ink cartridge replacements, one of each color, every other month for the duration of the construction project.
3) One 10-ream carton of 8½ X 11 inches size paper (500 sheets per ream, weight: 75 grams per square meter, color: white, grain: long, for laser printers and copiers) every three months for the duration of the construction project.

(e) One Primavera SureTrak or equivalent software, latest version.

(e)

To be approved as a Substitute or "Or Equal", the software must be completely compatible with the Department database that contains the Capital Program Management's design process schedule and budget, as well as the construction scheduling from design through construction. The software shall be compatible with the hierarchy of the coding and able to import and export data within the Department's Capital Program Management's database without distortion of any coding or relationships contained in the database.

The Contractor shall only utilize equivalent or compatible software for a project, which has received written approval from the Department in accordance with the most current NJDOT Capital Program Management Construction Scheduling Standard Coding and Procedures for Designers and Contractors Manual. The approved equivalent/compatible software utilized shall not vary throughout the construction phase.

The following additional equipment shall be furnished by the Contractor for the exclusive use of the Resident Engineer. This equipment shall conform to the applicable ASTM designation, when appropriate, and be in good working condition. The Contractor shall repair or replace damaged equipment throughout the duration of the Contract. The equipment shall become the property of the Contractor after Acceptance:

- Three (3) each: hard hats (Orange in color, reflectorized) and safety vests (Orange in color, reflector-ized, 360° high-visibility that meet ANSI/ISEA standards for Class 3 garments). It should be noted that safety vests are to be replaced each year for the duration of the project.
- Three (3) sets: ear protection and eye protection
- Two (2) electronic Smart levels
- Two (2) metric measuring wheels
- Two (2) thirty-meter cloth tape measures
- One (1) fifty-meter cloth tape measure
- Two (2) asphalt thermometers
- One (1) digital infrared thermometer

SECTION 106 – CONTROL OF MATERIAL

106.03 Materials, Inspections, Tests, and Samples.
THE FOLLOWING SUBPART IS ADDED:

D. **Sharing of Pay-adjustments for Portland Cement Concrete.** Positive and negative pay-adjustments, as defined in Subsection 914.02, Subpart E, are awarded to encourage high quality construction and, when necessary, to recoup the anticipated extra costs to the Department resulting from poor quality construction. The manner in which positive and negative pay-adjustments are to be shared by the prime Contractor and Subcontractors or Producers is to be negotiated by the affected parties. A letter signed by both parties, stating that an agreement has been reached between the parties shall be provided to the Engineer before commencement of Work. Nothing contained herein shall create right of action either in law or equity against the Department.

SECTION 107 - LEGAL RELATIONS AND RESPONSIBILITY TO PUBLIC

107.22 Risks Assumed by the Contractor
SUBPART 1 IS CHANGED TO:

1. **Risks of Loss or Damage to the Permanent Construction**. Until Acceptance, and within the limits of the Project's work, the Contractor shall bear the risk of all loss or damage to all permanent construction and temporary construction performed under this Contract and to materials, whether or not it has received payment for such construction or materials under Subsection 109.05, 109.06, or 109.07, except payment will be made to the Contractor for the repair or replacement of any permanent element of the construction which has not been accepted by the Department, if the element of the work damaged is completed to the stage of serving its intended function and is subsequently damaged by accident by public traffic. In order to receive payment, the Contractor must supply satisfactory evidence that such damage was caused by a public traffic accident which was not caused by vandalism or by the equipment of the Contractor or any of its subcontractors or suppliers. Satisfactory evidence shall generally be limited to: accident reports filed with the Division of Motor Vehicles, police agencies or insurance companies; statements by reliable, unbiased eye witnesses; identification of the vehicle involved in the accident. Physical evidence that the damage was caused by a motor vehicle (such as tire marks or broken headlight glass) will not be sufficient unless it can be clearly shown that the damage was not caused by the Contractor's vehicles or by vandalism. The Contractor shall take every precaution, as allowed by the Contract against injury or damage to any part of the construction or to materials by the action of the elements, the traveling public, vandalism, or from any other cause, whether arising from the execution or the non-execution of the work. The Contractor shall promptly repair, replace, and make good any such damage or loss without cost to the Department. The Contractor shall not bear such risk of loss or damage, which arises from acts of war or floods, tidal waves, earthquakes, cyclones, tornadoes, hurricanes, or other cataclysmic natural phenomenon unless such loss or damage is covered by insurance.

SECTION 108 - PROSECUTION AND PROGRESS

108.02 Subcontracting.
Specialty Items are as listed below:

Above ground highway lighting items.
Electrical wire items.
Controller Assemblies, Type 8CL
Fiber Optic Termination Cable
12.2 M Camera Relocation

108.03 Commencement of Work.

THE THIRD SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Construction operations shall not begin until the Contractor has supplied, and the Engineer has accepted, the preliminary schedule and other certifications, forms, schedules, and any other information required by the Contract Documents, and until the Contractor has established a field office as required by Subsection 105.15.

108.04 Progress Schedule and Prosecution of the Work.

THIS SUBSECTION IS CHANGED TO:

In scheduling and executing the Work, the following shall be complied with:

1. **Progress Schedules.** The progress schedule shall conform to and incorporate the following requirements:
   a. **General.**
      (1) The work shall be monitored by a detailed CPM schedule. The CPM schedule shall be developed utilizing the most current NJDOT Capital Program Management Construction Scheduling Standard Coding and Procedures for Designers and Contractors Manual and the NJDOT Primavera template project containing the latest standard coding. The manual and template are available from the Bureau of Quality Management Services.

      The CPM schedule shall consist of diagrams and accompanying mathematical analyses. The scheduling of submittals, procurement, construction, and all else necessary to complete the Work as described in the Contract Documents, is the responsibility of the Contractor. The requirement for the CPM schedule is included to ensure adequate planning and execution of the Work and to assist the Department in appraising the reasonableness of the proposed schedule, as well as its compliance with Contract requirements.

      The CPM schedule is the Contractor's committed plan to complete all work within the allotted time. The Contractor assumes full responsibility for the prosecution of the Work as shown. The CPM schedule shall be based on and derived from detailed schedules used to complete all Contract activities.

      (2) No claim for extension of time due to extra work or any other type of delay will be considered unless the baseline schedule has been approved and monthly updates are current and submitted within the time limits stated.

      (3) No claim for additional compensation as specified in Subsection 109.04 will be considered unless the baseline schedule has been approved and monthly updates are current and submitted within the time limits stated.

      (4) The CPM preliminary, baseline, and updated schedules shall be submitted in electronic format on a floppy diskette or compact disk, in addition to the required number of copies specified in b. (1) and b. (2) below.

      (5) Once the CPM baseline schedule has been approved, the Contractor shall not deviate therefrom without first notifying the Engineer in writing and schedule is updated in accordance with 1.h. and 1.i. below.

   b. **Submittals.** The CPM schedule shall consist of the following two distinct initial submittals:

      (1) **Preliminary Schedule.** No later than 10 State Business Days after execution of the Contract, the Contractor shall submit to the Engineer for review and approval or rejection and return a preliminary schedule. The contractor shall submit six copies of:

      (a) A CPM time-scaled diagram defining the Contractor's planned activities during the first 90 Calendar Days. For projects with a construction cost over $ 40 million, a CPM time-scaled diagram defining the Contractor's planned activities during the first 120 Calendar Days.

      (b) A summary network for the remainder of the Contract time. The preliminary schedule shall indicate all milestone activities expected to be completed or partially completed before submission and approval of the CPM baseline schedule as specified in b. (2) below.

      (c) All multiple shifts per day and anticipated production rates shall be detailed in the Contractor's narrative accompanying the preliminary schedule.

      (d) The Work shall not begin until the preliminary schedule has been approved. Five State Business Days will be required for review and approval or rejection and return of the preliminary schedule.

(2) **Baseline CPM Schedule.** In accordance with the time frames listed below, the Contractor shall submit six copies of the Baseline CPM Schedule documents depicting the Contractor's work plan for the entire Contract.

Project Construction Cost ($ million)	Time Frame After Approval of Preliminary Schedule for Submission of the Baseline CPM Schedule (State Business Days)
< 5	10
5 - 15	15
15 - 40	20
> 40	30

The Contractor shall submit to the Engineer for review and approval or rejection and return:

(a) Computer generated tabular schedule and logic reports in accordance with 1.e. below.
(b) Time-scaled computer generated Layout Output in conformance with 1.f. below.
(c) A written narrative explaining the schedule and the Contractor's general approach for achieving Substantial Completion and the date of Completion as specified in Subsection 108.10 of these Special Provisions. Multiple shifts per day and anticipated production rates shall be detailed in the Contractor's narrative accompanying the Baseline CPM Schedule.
(d) Electronic version as specified in 1.a. (4) above.

c. CPM Schedule Requirements for the Baseline and Updates.

(1) The CPM schedule and updates shall contain the following:
(a) The order in which the Contractor proposes to prosecute the Work; the starting dates of the various work stages, operations, and principal items of work including procurement of materials and plant, and the contemplated dates for completing the same.
(b) List dates for all required submissions.
(c) A clear outline of the intended maintenance of traffic.
(d) The locations and timeframes for the installation of temporary and permanent soil erosion and sediment control measures to be installed.
(e) All unusual requirements specific to the project included in the Contract Documents or as deemed appropriate for the project.
(f) Special consideration to sensitive areas such as wetlands, floodplains, waterways, and parklands to ensure that appropriate staging and seasonal constraints are considered in order to maximize the effectiveness of the soil erosion and sediment controls.
(g) The time frames when work is restricted in sensitive areas as reflected in present and future permits as anticipated or known.
(h) Updates to reflect permit conditions if changed.
(i) Include a detailed, step-by-step outline of any clean-up operations regarding contaminated material.
(j) The work of the Contractor, subcontractors, suppliers, the Department, permitting agencies, utility companies, and all others that affect progress shall be shown and identified on the schedule by responsibility codes.
(k) Procurement activities shall be shown, including plans, permits, materials, individual working drawings, fabrication, and delivery of the material. 20 State Business Days will be required for review and certification or rejection and return of fabrication working drawings. 30 State Business Days will be required for review and approval or rejection and return of working drawings for items that were included as conceptual and the Contractor is required to complete final design plans. The time frames set forth in this paragraph are provided for scheduling purposes only. The Department reserves the right to enlarge such time periods for review by a reasonable amount of time where circumstances necessitate, within the sole discretion of the Engineer.

(l) Traffic staging, delivery of Department - furnished labor/equipment, project phasing, right-of-way availability dates, and any other requirements specified in Divisions 200 through 900 shall be shown.

(m) The CPM schedule shall contain sufficient activities to adequately depict the Work, and will be subject to the review and approval of the Engineer.

(n) The logic and activity time durations established by the Contractor shall be consistent with the Contract Documents and be reflective of proper coordination between trades.

(2) The CPM schedule shall operate as follows:

(a) The CPM schedule shall be of the precedence type.

(b) One activity for each discrete component part of each Pay Item scheduled in the Proposal. The Engineer may allow grouping of similar Pay Items into one activity. No work activity shall have a duration greater than 30 Calendar Days, except as approved by the Engineer. The activities shall be consistent with the Work Breakdown Structure (WBS), and shall also include discrete component parts of the Contractor's submittal preparation, Department approval, procurement, and construction work activities with sufficient detail such that all the relationships with all direct and non-direct parties to the Work are shown.

(c) The system shall be based upon network diagrams and accompanying mathematical tabulations as described hereinafter. Diagrams shall show the order and interdependence of activities and the sequence and quantities in which work is to be accomplished. The basic concept of network scheduling shall be followed to show how the start of a given activity is dependent on the completion of preceding activities and how its completion may affect the start of subsequent activities. The critical path shall be distinguished from other paths on the network.

(d) The completion date of the CPM schedule shall be the date of Completion specified in Subsection 108.10 of these Special Provisions, except as specified in Subsection 108.04 subpart 5, which shall be input as a Finish Milestone with a Late Finish Constraint. All Intermediate Milestones required in the Contract shall be shown in proper logical sequence and input as a "Start-no-Earlier-Than" constraint for entrance into an area or start activity or a "Finish-no-Later-Than" constraint date for completions.

(e) Activities shall be described such that the Work is readily identifiable for assessment of start and completion, as well as intermediate status. Descriptions shall utilize activity codes for physical locations at each stage such as distance-markers, structures, and elevations where possible to define the Work. Activity descriptions of "Start," "Continue," "Completion," "X percent," "Y percent," "Z percent" or similar nonspecific descriptions will not be allowed.

(f) The CPM schedule shall be calculated in Working Days. The Working Day to calendar date correlation shall be based upon the Contractors proposed work week with adequate allowance for weekends, legal holidays and any special requirements of the Contract. Activities shall indicate the calendar being used. Durations for activities shall not be less than one workday. Multiple shifts per day and anticipated production rates shall be detailed in the Contractor's narrative accompanying the baseline schedule and subsequent updates.

(g) Constraint dates are permitted only on milestone activities, unless otherwise approved by the Engineer.

(h) All activities with the exception of the Project Start Milestone and Project Completion Milestone shall have predecessors and successors. The start of an activity shall have a Start-to-Start or Finish-to-Start relationship with preceding activities. The completion of an activity shall have a Finish-to-Start or Finish-to-Finish relationship with a succeeding activity. Start-to-Finish relationships are not acceptable.

(i) CPM schedules, which have been resource leveled, are permissible, provided the effects of leveling are incorporated in the schedule using "Start-no-Earlier-Than" date constraints.

d. Computer Program Requirements. The computer program requirements shall be the same as that specified in Subsection 105.15 subpart 1.e. of these Special Provisions.

e. Tabular Reports.

(1) CPM schedule reports shall be provided for the following sort orders:

(a) Total float, then early start for activities with float less than 20 days.

(b) Grouped by responsibility, then by early start.

(c) Grouped by WBS, area, then sorted by early start.

(2) The minimum activity information required for each of the above reports in (1), shall include the following:
(a) A unique activity ID for each activity.
(b) A description of the Work represented by the activity.
(c) Location code identification.
(d) Work responsibility code identification.
(e) Original activity duration and remaining activity duration in Working Days.
(f) Early and late, start and finish dates calculated according to CPM principles.
(g) Total float.
(h) Historical (actual) dates for activities completed or underway shall replace the appropriate calculated dates.
(i) Stages.
(j) Calendar used for each activity.

f. **CPM Time-Scaled Layout Output.**
(1) The network displayed on the schedule diagram shall depict the exact detail of the CPM schedule reports.
(2) The network diagram shall be of the precedence type and drawn by using early dates.
(3) The layout output shall be time-scaled. The length of the activity representation shall be proportional to the activity duration.
(4) The activity display shall include the:
(a) Activity description.
(b) Activity identification.
(c) Activity original duration and remaining duration.
(d) Activities coded by area, responsibility, and WBS.
(e) Activity total float.
(f) Activities early start dates.
(g) Activities finish dates.
(5) The activities, which are displayed on the network diagram, shall be grouped by WBS and sorted by area. The title of these components shall appear on the left-hand side of the plot.
(6) The critical path shall be identified on the plot.
(7) Vertical lines indicating the start and the end of each month shall be shown.
(8) The data date shall be indicated on the plot in the activity display and in the title at the top or bottom of the plot.
(9) Completed activities shall be indicated on the plot.
(10) The Contract title shall be displayed on the plot.
(11) A legend shall be provided which indicates the various symbols used and their meanings.
(12) Milestone Activity shall be indicated by a prominent symbol.
(13) Different line types shall indicate the critical path and completed Milestone and activities.

g. **Review and Approval.** The Engineer will review a submitted preliminary schedule for approval or rejection within five State Business Days of receipt and will thereafter return same to the party having submitted it. There will, in turn, be allotted ten State Business Days for review and approval or rejection by the Engineer of the submitted baseline schedule, which will thereafter be returned to the party having submitted it. The Engineer will review revised preliminary or revised baseline submittals within five State Business Days of receipt. The time periods set forth in this paragraph are provided for scheduling purposes only. The Department reserves the right to enlarge such time periods for review by a reasonable amount of time where circumstances necessitate, within the sole discretion of the Engineer.

h. **Updating and Revisions.**
(1) Within ten State Business Days after review by the Engineer, all preliminary and baseline schedules that are not approved shall be revised and resubmitted by the Contractor until the Engineer's approval is received.
(2) The Contractor shall update the CPM schedule monthly whether or not the Engineer has accepted the schedule, to reflect actual activity progress. The update shall include the historical record of actual start and actual finish dates for activities in progress, or completed, and the remaining duration based on the amount of workdays required to complete the activity.

(3) Monthly progress meetings shall be held. The updated CPM schedule shall be the basis for the monthly progress review meetings. Activity progress shall be prepared in advance of the meeting. At this meeting, attended by the Engineer, all progress during the calendar month shall be presented and reviewed for incorporation into the schedule by the Contractor. Within a period of ten State Business Days from the date of this progress meeting, the Contractor shall submit the schedule update to the Engineer with the agreed upon changes.

(4) The monthly schedule update submission shall consist of three copies of electronic format on floppy diskettes or compact disks and three copies of the following:

(a) Updated CPM schedule reports (see Item e. above).

(b) Layout output. (See item f. above)

(c) CPM progress narrative.

The CPM progress narrative report submitted as part of the update analysis shall include, but not be limited to, the:

1. Description of schedule status.
2. Discussion of current and anticipated delaying problem areas and their estimated impact.
3. Schedule slippage, pay revisions, and/or progress along the critical path in terms of days ahead or behind the allowable dates, and if the Work is behind schedule, progress along other paths with negative float. This shall be in addition to and not a substitute for requirements in Subsection 108.11.
4. Logic changes and an explanation of the revisions. Revisions to activities not worked on during the period, including changes in duration, or revisions to activity relationships are to be considered logic revisions. Out-of-sequence activities are not acceptable and shall be corrected in logic revisions prior to submission to the Department.

(5) When, in the Engineer's opinion, the CPM schedule fails to reflect the Contractor's actual plan and method of operation, or the Contractor's completion date as indicated by the CPM is more than one month behind the Contract completion date, the Engineer may require the Contractor to submit for review within ten State Business Days, a recovery plan for completion of the remaining work within the Contract completion date. A recovery plan shall include, but not be limited to, a revised CPM schedule and additional manpower and equipment that shall be utilized to complete the project by the date of Completion.

(6) When the Contractor adds activities that are not Extra Work Items to the CPM schedule, they shall be added in a method that completion dates of any succeeding baseline activities are not affected. All revisions shall be submitted to the Engineer for approval before incorporation into the CPM schedule.

(7) The Engineer shall have the right, within its sole discretion, to prepare its own update(s) or revision(s) to the baseline schedule in the event of a dispute between the parties regarding the appropriateness of the submitted revision(s) or updates to the baseline schedule or by reason of a failure on the part of the contractor to prepare same, which update(s) or revision(s) may reflect what the Engineer has determined to be the actual status of the project progress, actual sequencing of the Work and appropriate scheduling logic required under this Subsection. The Engineer may thereupon rely on its own revision(s) or update(s) of the baseline schedule in the administration of the project, review of claims and/or the imposition of liquidated damages.

i. **Changes and Delays.** To ensure that the CPM schedule continues to accurately reflect the Contractor's plan for the Work and that it incorporates the impact of all changes and delays as soon as the Work scope can be defined, the Contractor shall use the following procedure to incorporate changes and delays.

When Extra Work or a change is proposed or claimed, the Contractor shall submit a Time Impact Evaluation form. Each Time Impact Evaluation must identify in a CPM fragnet sketch, additional work required as a result of the proposal and its interrelationship to the CPM schedule. Each change or delay shall be represented by adding a new activity or activities. These activities shall be clearly identified. This sketch shall show all activities, logic revisions, duration changes, and new activities with all the predecessors and successors. The Time Impact Evaluation form shall also include any associated cost changes for performing the Work in question. Upon the Engineer's approval of the Time Impact Evaluation, the Contractor shall incorporate the fragnet's illustrating the influence of changes and delays into the baseline schedule and the working schedule in the next schedule update. An extension of time may only be considered when the Time Impacted scheduled

completion date exceeds the date of Completion. For cases where the Contractor is behind schedule, an extension will be granted for only the amount of time that the Department is responsible as supported by a Time Impact Evaluation. In the event of a dispute, the Engineer may prepare an update, which is believed to be the true impact on the project. No additional compensation will be paid to the Contractor for preparing these revisions. Any request for extension of time shall be verified by CPM analysis and shall be in accordance with Subsection 108.11. Compensation for additional expense to the Contractor and allowance of additional time for completion of the Work shall be as set forth in a Construction Order in accordance with Subsections 108.11 and 109.03.

2. **Staging.** The Contractor shall schedule the Work using such procedures and staging as may be specified in the Contract Documents. Work designated as part of separate stages may be performed simultaneously where provided by the Contract Documents or where approved.

When the Contract Documents provide for staging or specific procedures, the Contractor may present, for written approval of the Engineer, a detailed, written alternate staging plan or procedure which incorporates the requirements of the Department. If the Contractor proposes an alternate-staging plan, two CPM schedules shall be submitted. One based on the original staging and one based on the Contractor's alternate staging. As a condition of the Engineer's reviewing of the alternate staging plan or procedure, the Contractor agrees that it is not entitled to additional Contract Time or compensation arising from possible delays to construction due to the time spent in reviewing the Contractor's staging plan or procedure, regardless of whether the Department accepts or rejects it. The Engineer will review and approve or reject and or return, with comments, the staging plan within ten State Business Days. If such staging plan or alternate procedure is approved in writing, the Contractor shall then finalize the progress schedule consistent with the alternate approved staging.

3. **Prosecution of the Work.**
   a. At or prior to the preconstruction conference, the Contractor shall furnish the name and location of the solid waste facilities to be utilized as well as the fee structure of each of the facilities. Failure to provide such information shall make the Contractor ineligible for adjusted compensation as provided for in Subsection 104.07.
   b. The Contractor shall provide sufficient materials, equipment, and labor to guarantee the Completion of the Project in accordance with the Contract Documents and within the time set forth under Subsection 108.10.
   c. The Contractor shall supply the Engineer with a weekly work schedule indicating the Contractor's planned work, the subcontractor's planned work, the dates when materials and submissions are to be delivered, and a forecast of lane closings.
   d. The Contractor shall notify the Engineer, in writing, prior to discontinuing work for any reason and at least 24 hours in advance of resuming operations.
   e. The Contractor shall arrange and prosecute the Work so that each successive construction operation at each location shall follow the preceding operation as closely as the requirements of the various types of construction permit.
   f. Underground structures for traffic signals, except for pressure detector installations shall be constructed prior to completion of the intersecting road.
   g. Work, which closes or alters the use of existing roadways shall not be undertaken until adequate provisions, conforming to the requirements of Section 617, have been made by the Contractor and approved.
   h. The Engineer may revise stage construction and maintenance of traffic, if deemed necessary, by the Engineer due to unforeseen circumstances that may arise during construction.
   i. When possible, the construction of subsurface structures adjacent to traffic shall be performed while traffic is being diverted from such areas. If traffic must be maintained in such areas, the Work shall be done expeditiously in stages, as approved, and with minimum interference with traffic.
   j. Subsurface structure excavation adjacent to traffic shall not remain open overnight unless adequately protected by approved safety devices.
   k. The Contractor shall proceed with the Work of demolition of the various buildings that are identified with a demolition number as and when they become available for demolition. If any of the buildings to be demolished is not available for demolition at the time the Contractor begins work on the Project, the Contractor shall temporarily defer its work in the vicinity of the building and complete the Work when the building is made available for demolition.

l. Operations adjacent to traffic shall be confined to only one side of the traffic at any one time unless otherwise specified in the Contract Documents.

m. Concrete curbs constructed adjacent to flexible base and surface courses shall be completed, cured, and backfilled before the flexible base and surface courses are constructed.

n. Bituminous paving operations shall be staged to progress up to the bottom of the surface course. The top layer of the bituminous concrete surface course for the full width of the traveled way, shoulder, and auxiliary lanes shall be paved as a single stage of construction and as the final paving operation.

4. **Acceleration and Default.** If, in the opinion of the Engineer, the Contractor falls behind its baseline schedule, and cannot complete the Work within the time prescribed under Subsection 108.10, as modified pursuant to Subsection 108.11, the Contractor shall take such steps as may be necessary to improve its progress. The Engineer may require the Contractor to increase the number of shifts, begin overtime operations, work extra days including weekends and holidays, or supplement its construction plant and to submit for approval such supplementary schedule or schedules, as may be deemed necessary to demonstrate the manner in which the agreed rate of progress shall be regained, all at no cost to the State.

Failure of the Contractor to comply with the requirements of the Engineer under this Subheading is grounds for the determination that the Contractor is not prosecuting the Work with such diligence as to ensure Completion within the time specified. Upon such determination, the Engineer may terminate the Contractor's right to proceed with the Work or any separate part thereof in accordance with Subsection 108.17.

5. **Intent, Responsibility, and Time.** Scheduling of construction shall be the responsibility of the Contractor. The Contractor's shall determine the most feasible order of work commensurate with the Contractor's abilities and the Contract Documents. The CPM schedule will be used for determining extensions or reductions of Contract Time pursuant to Subsection 108.11.

It is not intended that the Engineer, by approving the CPM schedule, agrees that it is reasonable in any or all respects or that following the CPM schedule can result in timely completion of the Project. The progress schedule is not a part of the Contract.

If, in the preparation of the CPM schedule, the Contractor reflects a completion date different than that specified under Subsection 108.10, this in no way voids the date set therein. The date as specified in that Subsection governs. Where the CPM schedule reflects a completion date earlier than that specified as the Contract Time, the Engineer may approve such schedule with the Contractor specifically understanding that no claim for additional Contract Time or compensation shall be brought against the State as the result of failure to complete the Work by the earlier date shown on the CPM schedule.

6. **Payment.** Payment for the accepted progress schedule will be made on a lump sum basis for the costs for schedule preparation, maintenance, updating, facilities, personnel, computer hardware and software requirements, schedule submittals and reproduction as specified. Twenty-five percent of the lump sum bid will be paid upon approval of the baseline submission, and the balance paid on approval of updates at a prorated sum based upon the number of anticipated updates to be submitted during the Contract Time.

Payment will be made under:

Pay Item	*Pay Unit*
PROGRESS SCHEDULE	LUMP SUM

108.05 Mobilization.

THIS SUBSECTION IS CHANGED TO:

Mobilization shall consist of the preparatory work and operations necessary for the movement of personnel, equipment, supplies, and incidentals to the Project site, and other work performed or costs incurred prior to beginning Work.

Payment for mobilization will be made on a lump sum basis regardless of the fact that the Contractor may have, for any reason, shut down its work on the Project or moved equipment away from the Project and back again.

Payment will be made in accordance with the following schedule:

1. When five percent of the Work is completed and the Baseline Progress Schedule is approved by the Engineer, 25 percent of the lump sum bid for mobilization or 2.5 percent of the Total Contract Price, whichever is less, will be paid.

2. When ten percent of the Work is completed and all required CPM Progress Schedule Updates are approved by the Engineer, 50 percent of the lump sum bid for mobilization or five percent of the Total Contract Price, whichever is less, will be paid.
3. When 15 percent of the Work is completed and all required CPM Progress Schedule Updates are approved by the Engineer, 75 percent of the lump sum bid for mobilization or 7.5 percent of the Total Contract Price, whichever is less, will be paid.
4. When 20 percent of the Work is completed and all required CPM Progress Schedule Updates are approved by the Engineer, 100 percent of the lump sum bid for mobilization or ten percent of the Total Contract Price, whichever is less, will be paid.
5. When all Work on the Project is complete, payment for the lump sum bid for mobilization in excess of ten percent of the Total Contract Price will be made.
6. The percentage of Work completed shall be the total of payments earned compared to the Total Contract Price. The total of payments earned excludes the amount paid for this item and the amount paid for materials furnished but not incorporated into the Work in accordance with Subsection 109.06, as shown on the monthly estimates of the approximate quantities of Work performed, prepared in accordance with Subsection 109.05.
7. No payment will be made for mobilization until a Baseline Schedule is approved, except when all Work on the Project is complete, then 50 percent of the lump sum bid for mobilization will be paid and no further payment(s) will be made for the lump sum bid for mobilization.

Payment will be made under:

Pay Item	*Pay Unit*
MOBILIZATION	LUMP SUM

When mobilization is not a Pay Item, all costs for the Work shall be included in the prices bid for various Pay Items scheduled in the Proposal.

108.10 Time of Completion.

A. All work required for Substantial Completion of the Project shall be completed on or before December 20, 2005

B. The entire Work of the Project shall be completed on or before June 9, 2006.

C. NJDOT-owned fiber optic networks and related equipment shall be permitted to be out of operation only during the following hours and for completion of work under the subject contract. Outages beyond the stated permissible hours shall be subject to the liquidated damages provisions of Subsection 108.16. The hours indicated below shall not apply to incidents of accidental damage to and resultant outage of these systems. Such outages shall be immediately subject to the liquidated damages provisions of Subsection 108.16,

Monday through Friday	10 PM to 5 AM
Friday through Saturday	10 PM to 9 AM
Saturday through Sunday	9 PM to 9 AM
Sunday through Monday	9 PM to 5 AM

108.11 Extensions and Reductions of Contract Time.

THIS SUBSECTION IS CHANGED TO:

A. Basis for Extension. Where appropriate under the provisions of this Subsection, extensions or reductions to the Contract Time may be provided by Construction Order, however, such extensions or reductions will be allowed only to the extent that the increase or decrease in the Work or delays of the types indicated below affect current controlling operations and the overall Completion. Increases or decreases in Work or such delays, which do not affect the overall Completion, are not to be the basis for reduction or extension of Contract Time. Extensions of Contract Time will not be granted under this Subsection where it is determined that the Contractor could have avoided the circumstances which caused the request for extension.

If the Contractor is delayed in completion of the Work by reason of changes made under Subsection 104.02, or by failure of the Department to acquire right-of-way, or by any act of other contractors consistent with Subsection 105.10, or due to the discovery of archeological finds consistent with Subsection 108.13, or the discovery of hazardous substances, or by any act of the Engineer or of the Department not contemplated by the Contract, an extension of Contract Time commensurate with the delay in overall completion of the Contract thus caused will be granted, and the Contractor is relieved from any claim for liquidated damages or engineering and inspection charges.

Additionally, the Contractor may be granted an extension of Contract Time and not be assessed liquidated damages or the costs of engineering and inspection for any portion of the delay in overall completion of the Work beyond the time provided in Subsection 108.10 caused by the following reasons:

1. acts of civil or military authorities, war, or riot;
2. fire;
3. floods, tidal waves, earthquakes, cyclones, tornadoes, hurricanes, or other cataclysmic natural phenomenon (except on working day contracts);
4. extreme weather conditions (see Item 1 of the fourth paragraph) (except on working day contracts);
5. epidemics or quarantine restrictions;
6. strikes or labor disputes beyond the control of the Contractor which prevent work on the construction operations which are critical to the completion of the Project;
7. shortages of materials (see Item 2 of the fourth paragraph) or freight embargoes;
8. acts of the State in its sovereign capacity;
9. failure of the Engineer to furnish interpretations of the Contract Documents (see Item 3 of the fourth paragraph).

B. Criteria for Evaluation. Extension of Contract Time for the reasons set forth in this Subsection will not be granted unless the Contractor has notified the Engineer in writing of the causes of delay within 15 State Business Days from the beginning of any such delay on forms provided by the Department. The Engineer will evaluate the facts and the extent of the delay, and the Engineer's findings will be final and conclusive and will be based on the following:

1. Extensions of Contract Time for extreme weather conditions will be granted in accordance with the following:

Number of Days the Contractor's Work is Limited to in One Month as the Result of Extreme Weather Conditions (April through November inclusive)	Extension of Contract Time Allowable
16 - 31	0
15	1
14	2
13	3
12	4
11	5
10	6
9	7
8	8
7	9
6	10
5	11
4	12
3	13
2	14
1	15
0	16

Extensions of Contract Time for extreme weather conditions will be granted in accordance with the following for the months of December through March inclusive:

It is anticipated that the average number of total Working Days during this four month winter period is 0 for road work (Exclusive of temperature sensitive work, for example but not limited to, paving operations, earthwork, aggregates, curb and sidewalk, etc.) and 0 for bridge work (Exclusive

of temperature sensitive work, for example but not limited to, concrete decks, parapets, bridge repairs, bridge painting, etc.)

In using the above, the Engineer will:

a. Consider days for which an extension is granted under the above category "floods, tidal waves, earthquakes, cyclones, tornadoes, hurricanes, or other cataclysmic natural phenomenon" as days on which the Contractor's work is limited as the result of these extreme weather conditions;

b. Consider days for which an extension is granted under the above categories for causes other than "floods, tidal waves, earthquakes, cyclones, tornadoes, hurricanes, or other cataclysmic natural phenomenon" as days on which the Contractor worked and was unaffected by extreme weather conditions; and

c. Make the above calculation based on the full number of days in the calendar month as being days on which the Contractor could have worked without regard to Saturdays, Sundays, and holidays.

d. Extension of time for extreme weather conditions will only be granted when the Critical Path of the Progress Schedule is affected and documented by the contractor in accordance with Subsection108.04. No extension of time will be granted unless the Contractor submits daily documentation of such extreme weather.

2. Extensions of Contract Time will not be granted for a delay caused by a shortage of materials unless the Contractor furnishes:

   a. Documentary proof that it has diligently made every effort to obtain such materials from all known sources within reasonable distance from the Work, and

   b. Further proof in the form of a progress schedule, as required in Subsection 108.04, showing that the inability to obtain such materials when originally planned, did, in fact, delayed the date of Completion which could not be compensated for by revising the sequence of the Contractor's operations. The term "shortage of materials" applies only to raw and fabricated materials, articles, parts, or equipment which are standard items and does not apply to materials, parts, articles, or equipment which are processed, made, constructed, fabricated, or manufactured to meet the specific requirements of the Contract. Only the physical shortage of materials and not the cost of materials will be considered.

3. Extensions of Contract Time will not be granted for failure of the Engineer to furnish interpretations of the Contract Documents until 20 State Business Days after receipt of such demand in writing as required by Subsections 105.01 and 105.07, and not then unless such request for an interpretation of the Contract Documents is reasonable and made in good faith, and the failure to respond was unwarranted.

4. It is understood and agreed that the Contractor has considered in its bid all of the permanent and temporary utility facilities in their present or relocated positions as may be shown on Plans, as described in Specifications and as revealed by its site investigation; is aware that utility company service demands, adverse field conditions and emergencies may affect the owner's ability to comply with the proposed schedules for utility work; and is cognizant of the limited ability of the State to control the actions of the utility companies, including the actions of railroads, and has made allowances in its bid. Extensions of Contract Time will be granted for extreme weather and exigent circumstances only, as specifically set forth above and which are outside the control of the respective utility company(ies) or the Contractor as determined by the Engineer utilizing the Extreme Weather provisions specified in 1. above. Extension of time for utility work will only be granted when the Critical Path of the Progress Schedule is affected and documented by the Contractor in accordance with Subsection108.04.

Except where specifically provided in the Contract Documents, the Contractor shall not make any claim for damages or additional compensation for any delay in or hindrance to the performance of the Contract occasioned by any act or omission to act by the State or any of its representatives, or for any of the reasons enumerated in this Subsection and agrees that any such claim shall be fully compensated for by an extension of Contract Time to complete performance of the Work.

Extensions of Contract Time will not be granted due to delays caused by, or in any way related to, the financial condition of the Contractor, subcontractors, sub-subcontractors, material, men, fabricators,

or suppliers. The Contractor and its surety assume full responsibility for ensuring that the financial condition of any of the above does not delay completion of the Contract.

If, as a result of modifications made under Subsection 104.02, 104.05, 104.06, or 108.09, the Work required is reduced or altered so that the time required for Completion is reduced, the Engineer may reduce the Contract Time provided under Subsection 108.10. The Engineer will evaluate the facts and the extent of the reduction. The Engineer's findings thereon will be final and conclusive.

It is the intention of the above provisions that the Contractor or surety is not relieved of liability for liquidated damages or engineering and inspection charges for any period of delay in Completion in excess of that expressly provided for in this Subsection.

108.12 Right-Of-Way Delays.
THE TITLE OF THIS SUBSECTION IS CHANGED TO:

108.12 Right-Of-Way Information and Delays.

108.12 Right-Of-Way Information and Delays.
THE FOLLOWING IS ADDED:

The Contractor shall obtain from the Engineer all information regarding ROW Parcels and Easements acquired for the Project as well as the nature and type of title acquired. The Contractor shall make periodic requests for updates to this information during the course of the Contract.

The Contractor shall not enter an Easement until the Resident Engineer provides written notice to the property owner. The Contractor shall provide written notice to the Resident Engineer, 30 calendar days prior to entering a particular Easement or right, which is lesser than a fee interest. The Contractor shall make no claim for delays by reason that entry upon an Easement or right which is lesser than a fee interest is conditioned upon notice or is limited in duration; the Contractor is required to schedule accordingly and take such limitations into account when planning performance of the Work.

Temporary Easements and/or temporary construction rights will in most cases contain a limitation as to the length of time that they are extant. The Contractor shall schedule the Work pursuant to Subsection 108.04 so as to accommodate the particular time limitations of an Easement or right which is lesser than a fee interest as reflected on the R.O.W. plans. The Contractor shall provide a written request to the Engineer that the Department procure an extension from the owner of a particular temporary easement or right, which is lesser than a fee simple interest, so as to enable the Contractor to continue occupancy of or re-enter same in the future, beyond the initial time period set forth in the respective property description prior to the expiration thereof.

Where the Contractor fails to complete the work within an area of a temporary easement or right lesser than a fee interest during the time allowed under the property description, by reason of the Contractor's own fault; the Contractor shall reimburse the State for the sum payable to the owner of the underlying fee interest for the extended period of occupancy use. The Resident Engineer may deduct an amount equal to such payments from the monthly estimate of the Work performed after providing 30 day written notice to the Contractor of such action, including a breakdown of the costs sought or to be sought by reason of the delay in timely vacating a temporary easement or right lesser than a fee interest.

The following is a list of all rights-of-way that have not been secured and their approximate anticipated dates of availability:

Properties and Vacation/Availability Dates

Demolition and/ or Parcel No.	Approximate Baseline Station	Offset/Direction	Date

133	Rt. 524B/L 9+700	10M Left	12/15/03
2R135A	Rt. 524B/L 9+870	10M Left	3/1/04
2R135B	Rt. 9B/L 179+170	26M Left	3/1/04
136	Rt. 9B/L 179+100	22M Left	10/15/03*
X136B	Rt. 9B/L 179+110	50M Left	10/15/03*
137A	Jackson/Mills Rd. B/L 1+300	8M Left	3/1/04
2R137B	Rt. 524B/L 9+900	30M Right	3/1/04
141A	Rt. 524B/L 10+300	12M Right	12/15/03
R141B	Rt. 9B/L 178+740	20M Right	12/15/03

* The Exxon property (rear portion) will not be available until NJDEP approves the complete cleanup of the property.

108.16 Failure to Complete on Time.

LIQUIDATED DAMAGES SHALL BE AS FOLLOWS:

1. For each Calendar Day that the Contractor fails to complete Construction Operations, as specified in Item A of Subsection 108.10 of these Special Provisions, for Substantial Completion, the Contractor shall pay liquidated damages consisting of Road User Costs and Construction Engineering Costs, as defined in Subsection 101.03, to the State in the amount of $5,000.
2. For each Calendar Day that the Contractor fails to complete the entire Work of the Project as specified in Item B of Subsection 108.10 of these Special Provisions, for Completion, the Contractor shall pay liquidated damages consisting of Construction Engineering Costs, as defined in Subsection 101.03, to the State in the amount of $1,150, provided that Construction Operations as specified for Substantial Completion are actually completed.
3. For each hour of outage or failure by the contractor to restore the operation of any NJDOT-owned fiber-optic network or related system, as specified in Subsection 108.10, Paragraph C of these Special Provisions, the contractor shall pay liquidated damages to the State in the amount of $6,000.00.

The days in default set forth above are the number of Calendar Days in default when the time for Completion is specified on the basis of Calendar Days or a specified completion date, and are the number of Working Days in default when the time for Completion is specified on the basis of Working Days.

Anytime after the Engineer notifies the Contractor in writing, that Substantial Completion of the Project has been actually achieved, the Commissioner may elect, to waive the imposition of liquidated damages under paragraph number 2 above and, in lieu thereof, require the Contractor to pay the actual costs incurred by the State for engineering, inspection, and administration (including overhead) between the actual date of Substantial Completion or such subsequent date as the Commissioner may determine and the actual date of Completion of all Work, as established by the Certificate of Completion. The Contractor hereby waives the right to challenge this election by the Commissioner on the grounds that such costs exceed the amount of liquidated damages specified in Subsection 108.16, Subpart 2.

The Commissioner will recover all damages specified above by deducting the amount thereof from any monies due or that may become due the Contractor, or from the Contractor or from its surety.

108.19 Lane Occupancy Charges.

THE FOLLOWING IS ADDED:

The rate or rates to be applied in the calculation of a Lane Occupancy Charge shall be in accordance with the following:

Description	Rate per Minute per Lane
Overrun of "Single Lane Closure" Time Limits	$20.00
Overrun of " Multiple Lane Closure" Time Limits	$10.00

SECTION 109 – MEASUREMENT AND PAYMENT

109.03 Force Account Payment.

5. Profit. Profit shall be computed at ten percent of the following:
SUBPART C. IS ADDED AS FOLLOWS:

c. Total fringe benefits on total direct labor cost as computed above.

6. Overhead.

THE FIRST SENTENCE IS CHANGED TO:

Any and all overhead for the Contractor is defined to include the following:

THE FIRST SENTENCE OF THE SECOND PARAGRAPH IS CHANGED TO:

Any and all overhead costs of the Contractor for Force Account work shall be computed at 15 percent of the following:

DIVISION 200 - EARTHWORK

SECTION 201 - CLEARING SITE

201.12 Basis of Payment.
THE FOLLOWING PAY ITEM IS ADDED:

Pay Item	*Pay Unit*
DEMOLITION OF BUILDING, D-1	LUMP SUM

THE SECOND PARAGRAPH IS CHANGED TO:

Payment for the Pay Item "Clearing Site" in excess of $150,000 will not be made until Completion.

SECTION 202 - ROADWAY EXCAVATION

202.09 Milling of HMA.
2. Construction Requirements.
THE FOLLOWING IS ADDED AFTER THE NINTH PARAGRAPH:

Milled areas shall not be left unpaved for longer than 72 hours, unless approved by the Engineer.

202.15 Basis of Payment.
THE FOLLOWING IS ADDED

Separate payment will not be made for Sawcutting when used with the Pay Items "Joint Removal" or "Removal of Concrete Base Course and Concrete Surface Courses".

SECTION 207 – SUBSURFACE STRUCTURE EXCAVATION

207.03 Bedding Materials.
SUBSECTION HEADING IS CHANGED TO:

207.03 Bedding and Backfill Materials.

207.03 Bedding and Backfill Materials.
THE FOLLOWING IS ADDED:

Controlled Low Strength Material (CLSM) shall conform to Subsection 919.22

207.06 Backfilling.
A. Pipes and Culverts.
THE FOLLOWING IS ADDED AFTER THE FOURTH PARAGRAPH:

CLSM may be used as alternate backfill material when backfilling trenches for drainage pipe and utility conduit. Combining other backfill materials in the same trench as CLSM shall not be permitted. Mixing and placement of CLSM shall begin only when the ambient temperature is at least –1 °C. During placement, the CLSM mixture shall have a temperature of at least 5 °C and shall not be placed on frozen

ground. The CLSM mixture shall be discharged directly from the truck into the trench to be filled with care taken to prevent the pipe from becoming displaced. After placement, the CLSM mixture shall be cured and protected to prevent damage from cold weather according to Subsection 405.14. CLSM shall not be used to replace pavement, base courses or drainage layers that form the structure of the roadway.

207.09 Basis of Payment.

THE THIRD AND FOURTH PAY ITEMS ARE CHANGED TO:

ROCK EXCAVATION, SUBSURFACE STRUCTURES	CUBIC METER
PIPE BEDDING, CLASS ___	CUBIC METER

DIVISION 300 - BASE COURSES

SECTION 301 - SOIL AGGREGATE BASE COURSE AND DENSE-GRADED AGGREGATE BASE COURSE

301.05 Compaction.

3. Waiving Standard Compaction Requirements.

THE FOLLOWING IS ADDED AFTER THE FIRST PARAGRAPH:

The compaction requirements in Subsection 301.05, Subparts 1 and 2, are waived.

DIVISION 400 - SURFACE COURSES

SECTION 404 – HOT MIX ASPHALT (HMA)

404.05 Plant Laboratory.

ITEM 23. OF THE FIFTH PARAGRAPH IS CHANGED TO:

23. Microcomputer and workstation requirements shall be according to Subsection 106.06.

404.06 Vehicles for Transporting HMA Mixtures.

THE ENTIRE SUBSECTION IS CHANGED TO:

The mixture shall be transported from the mixing plant to the Project in trucks equipped with tight, clean bodies, which may be lightly coated with a soap or lime solution, or other such non-petroleum-based release agent. Under no circumstance shall a petroleum-based product be used as a release agent.

The trucks shall be permanently equipped with an airfoil that is capable at any speed or under any weather conditions to deflect air over the tarp and to prevent air from going under the tarp. The airfoil will be affixed no more than 600 millimeters in front of the tarp roll and be at least as high as the top of the tarp roll.

Each truckload shall be covered immediately after loading at the plant with a waterproof tarpaulin of such size to protect the mixture from the weather. The tarpaulin shall be able to withstand normal handling and placement temperatures of up to 205 °C without endangering the structural integrity and serviceability of the fabric. The tarpaulin shall also comply with one of the following:

1. A heavyweight tarpaulin to completely drape the load. The heavyweight tarpaulin shall have a minimum weight of 0.61 kg/m^2 and shall be a minimum of 600 millimeters wider and 1.2 meters longer than the truck body. The heavyweight tarpaulin shall securely meet or overlap the top of the tailgate and be securely held in place so as to prevent air from lifting the tarp during transport.
2. A tarpaulin equipped with side and back flaps sufficient to lap down outside along the sides and rear of the truck bed a minimum of 300 millimeters. The tarpaulin shall be secured by tie downs at a maximum of 1.5 meter spacing along the sides and rear of the truck.

The truck bodies shall be insulated or heated as necessary, to ensure delivery of the mixture at the specified temperature. Any truck that: causes excessive segregation of the mixture by its suspension or other contributing factors; leaks; causes delays; does not have an airfoil; or does not have an approved tarpaulin shall be removed from the work until such conditions are corrected and the truck is presented for inspection to the Engineer. The Engineer may require that all vehicles for transporting HMA mixture to be used by the contractor be made available for inspection at the plant laboratory prior to any shipments of materials.

404.07 Materials Transfer Vehicle (MTV)

THE ENTIRE SUBSECTION IS CHANGED TO:

The MTV shall independently deliver mixtures from the hauling equipment to the paving equipment. A paver hopper insert with a minimum capacity of 12.7 megagrams shall be installed in the hopper of conventional paving equipment when an MTV is used.

As a minimum, the MTV shall have a high capacity truck unloading system which will receive mixtures from the hauling equipment; a storage system in the MTV with a minimum capacity of 13.6 megagrams of mixture; and a discharge conveyor, with the ability to swivel to either side, to deliver the mixture to the paving spreader while allowing the MTV to operate from an adjacent lane. In addition, the paving operation must contain a remixing system to continuously blend the mixture prior to placement. The remixing may be done by the MTV or in the paver hopper.

Use of MTV may not be necessary on all projects. Refer to the Special Provisions to determine if its use is either mandatory or optional. If an MTV is to be used on the Project the Contractor shall further investigate the possible movement of the fully or partially loaded MTV on the Project. If there are any structures on the Project that the fully or partially loaded MTV will traverse, the Contractor shall request an Overweight Permit Check from the Structural Evaluation Unit. Such request, including the axle configuration and weights, and the Project limits, shall be made in writing in a fax to (609) 530-4444 and operations shall not be started until this permission is received from the Department and one copy forwarded to the Resident Engineer.

A materials transfer vehicle (MTV) is optional for the construction of the pavement.

404.25 Method of Measurement.

THE SIXTH FULL PARAGRAPH FROM THE LAST IS CHANGED TO:

The basic asphalt price index will be the monthly asphalt price index published during the month of Advertisement.

THE EIGHTH AND NINTH PARAGRAPHS ARE CHANGED TO:

Sealing of Cracks in HMA surface course will be measured by the linear meter.

Sawing and sealing joints in HMA overlays will be measured by the linear meter. Sawing joints in base or intermediate course will be measured by the linear meter.

404.26 Basis of Payment.

THE NINTH AND THIRTEENTH PAY ITEMS IN THE FIRST PARAGRAPH ARE CHANGED TO:

SAWING JOINTS IN INTERMEDIATE OR BASE COURSE	
CORE SAMPLES, HOT MIX ASPHALT	UNIT

THE FOLLOWING PAY ITEM IS DELETED:

SEALING OF CRACKS AND JOINTS IN HOT MIX ASPHALT SURFACE COURSE	LINEAR METER

THE NINTH PAY ITEM IS CHANGED TO:

SAWING JOINTS IN INTERMEDIATE OR BASE COURSE	LINEAR METER

THE LAST PARAGRAPH IS CHANGED TO:

Separate payment will not be made for MTV, test strips, and quality control for compaction, including comparison cores, and nuclear density testing. All costs thereof shall be included in the prices bid for Hot Mix Asphalt Surface Course ___, Hot Mix Asphalt Intermediate Course ___, and Hot Mix Asphalt Base Course ___.

SECTION 406 – SUPERPAVE HOT MIX ASPHALT COURSES

406.13 Surface Course Rideability Requirements.

For this Project, the no payment reduction provisions shall govern.

406.19 Basis of Payment

THE LAST PARAGRAPH IS CHANGED TO:

Separate payment will not be made for MTV, test strips, and quality control for compaction, including comparison cores, and nuclear density testing. All costs thereof shall be included in the prices bid for Superpave Hot Mix Asphalt __ __ __ Surface Course, Superpave Hot Mix Asphalt __ __ __ Intermediate Course, and Superpave Hot Mix Asphalt __ __ __ Base Course.

DIVISION 600 - INCIDENTAL CONSTRUCTION

SECTION 602 - PIPES

602.11 Basis of Payment.
THE FOLLOWING PAY ITEMS ARE DELETED:

___ X ___ MM REINFORCED CONCRETE CULVERT PIPE ARCH, CLASS ___	LINEAR METER
___ X ___ MM REINFORCED CONCRETE SEWER PIPE ARCH, CLASS ___	LINEAR METER

SECTION 603 – INLETS AND MANHOLES

603.11 Method of Measurement.
THE FOLLOWING IS ADDED:

Drainage structures, of various kinds and types, will be measured by the unit.

603.12 Basis of Payment.
THE FOLLOWING PAY ITEM IS ADDED:

Pay Item	*Pay Unit*
DRAINAGE STRUCTURE 1	UNIT
DRAINAGE STRUCTURE 2	UNIT
INLETS, TYPE DOUBLE B	UNIT
INLETS, TYPE DOUBLE ES	UNIT

SECTION 613 - MISCELLANEOUS CONCRETE

THE FOLLOWING IS ADDED TO THIS SECTION:

CONTROLLED LOW STRENGTH MATERIAL (CLSM)

Description.
This work shall consist of filling the abandoned water main at the location shown on the Plans.

Materials.
CLSM shall conform to Subsection 919.22

Construction Requirements.
The existing pipe shall be cut as necessary to allow installation of the CLSM. A pipe plug shall be installed in the end of the existing pipe to remain, which is not indicated to be abandoned on the plans.
The ends of the pipe shall be plugged in a manner to contain the slurry during placement.

Method of Measurement.
CLSM will be measured by the cubic meter using the computed volume of the pipe size.

Basis of Payment.
Payment will be made under:

Pay Item	*Pay Unit*
CONTROLLED LOW STRENGTH MATERIAL	CUBIC METER

Payment for pipe plugs will be made in accordance with the provisions in this Section for Miscellaneous Concrete.

Separate payment will not be made to cut the existing pipe.

SECTION 616 – SLOPE AND CHANNEL PROTECTION

THE FOLLOWING IS ADDED TO THIS SECTION:

PERMEABLE PAVERS

Description

This work shall consist of the furnishing and installing of modular concrete grid pavers including topsoiling, fertilizing and seeding and straw mulching.

Materials

Modular concrete grid pavers shall be fabricated of Portland cement and conform to the requirements of Section 914. Modular concrete grid pavers shall be Turfstone by Unilock (1-800-UNILOCK), Turf Pavers by E.P. Henry (1-800-44 HENRY), Checker Block by Hastings Pavers (631-669-4900) or approved equal.

Topsoil shall conform to the requirements of Section 806.

Fertilizing and seeding shall conform to the requirements of Section 808.

Straw mulching shall conform to the requirements of Section 811.

Installation

Installation shall be done according to the manufacturer's directions. Modular concrete grid units shall not be split.

Method of Measurement

Permeable pavers shall be measured by the square meter.

Basis of Payment

Payment will be made under:

Pay Item	*Pay Unit*
PERMEABLE PAVERS	SQUARE METER

SECTION 617 - TRAFFIC CONTROL

617.02 Materials.

THE ENTIRE TEXT IS CHANGED TO:

Materials shall conform to the following Subsections:

Removable Wet Weather Pavement Marking Tape and Removable Black Line Masking Tape.....912.12
Temporary Pavement Markers 912.16

617.03 Traffic Control Devices.

THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

Traffic control devices shall be NCHRP 350 compliant with the exception of portable, trailer-mounted, devices including area lighting supports, flashing arrow panels, temporary traffic signals, and variable message signs used in or adjacent to the travel way and as allowed in table below.

3. **Illuminated Flashing Arrows.** The solar powered arrow boards approved for use on projects are:
   a. Work Area Protection – Arrowmaster Model WAAW-15-SB
   b. Solar Technology Inc. – Silent Sentinel
   c. Trafcon Industries Inc. – Model TC1-15S
   d. Protect-O-Flash Inc. – Model No. M-90 (LED bulbs only)
   e. TRACOM (Trailer Component Mfg., Inc.)

THE FOLLOWING IS ADDED TO THE FIRST PARAGRAPH:

Traffic Control devices shall be NCHRP-350 crash test compliant by the NJDOT implementation dates stated in the table below and shall be duly certified, if necessary.

Traffic Control Device Category	Commonly used NJDOT Traffic Control Devices	AASHTO/FHWA implementation date for newly purchased Devices	NJDOT implementation date for newly purchased Devices	NJDOT deadline By which devices must be NCHRP-350 compliant
1	Traffic cones, drums and delineator guide posts	10/1/1998	1/1/2003	8/15/2003
2	Vertical panel, portable sign supports, and type III barricades	10/1/2000	1/1/2003	8/15/2003
3	Truck mounted attenuators and traffic barriers-impact attenuators (crash cushions), barrier terminals, and longitudinal barriers	10/01/1998 attenuators 10/01/2002 temporary barriers	10/01/1998	3/15/2005
4	Portable, usually trailer-mounted, devices such as lighting supports, flashing arrows panels, temporary traffic signals, and changeable message signs used in or adjacent to the traveled way	to be announced	6/15/2005	6/15/2007

Note: Resident Engineer's approval shall be obtained to use traffic control devices that are certified NCHRP 350 compliant, but not listed in the table.

Newly purchased devices shall be NCHRP-350 compliant. A list of NCHRP 350 compliant and FHWA approved devices can be found at:

http://www.fhwa.dot.gov/safety/fourthlevel/pro_res_road_nchrp350.htm

NCHRP-350 non-compliant, yet adequately serviceable category 3 traffic control devices, such as truck-mounted attenuators (TMA) purchased prior to 10/01/1998, will be allowed to be used until 03/15/2005 upon submitting new purchase documentation to the Resident Engineer.

617.15 Removable Pavement Marking Tape.

THE SUBSECTION HEADING AND ENTIRE TEXT ARE CHANGED TO:

617.15 Removable Wet Weather Pavement Marking Tape.

Removable wet weather pavement marking tape shall be installed at designated locations and according to the Manufacturer's recommendations. The tape shall be white or yellow and shall be installed in single or double lines, as designated.

The surface upon which the tape is to be installed shall be prepared according to Subsection 618.05. Removable wet weather marking tape shall be installed on dry surfaces, when the surface temperature is between 10 °C and 65 °C and when the ambient temperature is 10 °C and rising, and when the weather is otherwise favorable as determined by the Engineer. The tape shall not be overlapped, and only butt splices shall be used.

To ensure maximum adhesion, the tape shall be tamped and a truck shall be driven slowly over the tape several times. The tape shall be removed when no longer required for traffic control.

Removable tape that has become damaged and is no longer serviceable shall be replaced immediately and will not be measured for payment. Tape that is damaged by construction operations shall also be replaced without additional compensation.

617.16 Method of Measurement.

THE 16TH PARAGRAPH IS CHANGED TO:

Removable wet weather pavement marking tape will be measured by the linear foot of 100-MM wide strips, deducting the gaps.

617.17 Basis of Payment.

THE FOLLOWING PAY ITEM IS DELETED:

Pay Item	*Pay Unit*
REMOVABLE PAVEMENT MARKING TAPE	LINEAR METER

THE FOLLOWING PAY ITEM IS ADDED:

Pay Item	*Pay Unit*
REMOVABLE WET WEATHER PAVEMENT MARKING TAPE	LINEAR METER

SECTION 618 - TRAFFIC STRIPES AND MARKINGS

618.01 Description.

THE FOLLOWING IS ADDED TO THIS SUBSECTION:

Removal of pavement reflectors and castings consists of the removal and disposal of existing raised pavement markers, including the lense when still intact.

Removal and replacement of pavement reflector lenses consists of the removal of existing pavement reflector lenses and installing new mono–directional or bi–directional pavement reflector lenses.

618.10 Defective Stripes or Markings.

STEP 2 OF SECOND SUBPART 2 IN THE THIRD PARAGRAPH IS CHANGED TO:

Step 2: All retroreflectance measurements taken with a LTL2000 Retrometer will be made on a clean, dry surface.

618.12 Removal of Traffic Stripes or Traffic Markings.

SUBSECTION IS RENAMED AND CHANGED TO:

618.12 Removal and Replacement of Traffic Delineation Devices.

A. Removal of Traffic Stripes, Markings, or Reflectors and Castings. The Contractor shall remove all types of traffic stripes or traffic markings by methods that do not damage the integrity of the underlying pavement or adjacent pavement areas, and that do not cause gouging, or create ridges or grooves in the pavement that may result in compromising vehicular control. Obliterating stripes or markings by painting over them shall not be permitted.

Before starting removal operations, the Contractor shall demonstrate the proposed method to accomplish the complete removal of the reflectors and castings and the removal of approximately 95 percent of the stripe or marking without the removal of more than 2 millimeters of pavement thickness. Area of removal includes the area of the stripe or marking plus 25 millimeters on all sides. Removal operations shall not be permitted until the method of removal has been approved.

Debris from the removal of traffic stripes and markings shall be disposed of according to Subsection 201.10.

Disposal of pavement reflectors and castings shall be in conformance with Subsection 201.10.

B. Removal and Replacement of Pavement Reflector Lenses. The Contractor shall remove existing pavement reflector lenses and install new mono–directional or bi–directional pavement reflector lenses within the limits of construction or as directed by the Engineer. The reflector adhesive used in the bonding of the reflector lenses to the casting shall be in conformance with Subsection 912.17.

The Contractor shall remove and replace pavement reflector lenses by methods that do not damage the underlying castings.

Disposal of pavement reflectors lenses shall be in conformance with Subsection 201.10.

618.14 Method of Measurement.

THE FOLLOWING IS ADDED TO THIS SUBSECTION:

Removal of pavement reflectors and castings will be measured by the number of units.
Removal and replacement of pavement reflector lenses will be measured by the number of units.

618.15 Basis of Payment.

THE FOLLOWING PAY ITEMS ARE ADDED:

Pay Item	*Pay Unit*
REMOVAL OF PAVEMENT REFLECTORS AND CASTINGS	UNIT
REMOVAL AND REPLACEMENT OF PAVEMENT REFLECTOR LENSES	UNIT

SECTION 622 - WATER, GAS, AND SANITARY SEWER LINES

622.01 Description.

THE FOLLOWING IS ADDED:

The work shall consist of the construction of the 400mm(16") water main.

622.02 Materials.

THE FOLLOWING IS ADDED:

Pipe.

Pipe for water main shall be ductile iron, minimum thickness class 52, cement-lined, bituminous seal coat, exterior tar coat, push-on, mechanical joint or T.R. Flex pipe conforming to ANSI/AWWA 151/A21.51, AWWA C-104 and AWWA C-111.

Pipe sizes indicated are nominal pipe sizes.

Valve.

Butterfly Valves shall be Mueller Lineseal III Resilient Seat or equal, 1.03kPA(150 psi) rating, conforming to AWWA C-504. Valve shall be mechanical joint with retainer glands and shall have a 50mm(2") operating nut and shall open counter-clockwise.

Gate Valves shall be Mueller Resilient Seat gate valve or equal, 1.380kPA(200 psi) rating, conforming to AWWA C-509. Valve shall be mechanical joint with retainer glands, and shall have a 50mm(2") operating nut and shall open counter-clockwise.

Tapping valves shall be catalog T2360 as manufactured by Mueller Company or approved equal.

All valves shall include accessories (bolts, glands, and gaskets).

Valve Boxes

Valve boxes shall be cast iron, two piece, slip type, 130mm(5 ¼ ") diameter shaft. The word "WATER" shall be cast on the cover with a direction arrow pointing in the "OPEN" direction.

Water Service Connection.

Service connection to be 37.5 mm (1.5") Type K soft copper tubing between the corporation and the curb stop.

Corporation stops shall be Mueller Cat. No. H-1500 conforming to AWWA C-800. Corporation threads shall be Mueller CC thread.

Fittings.

The pipe fittings shall be cast or ductile iron, cement lined, mechanical joints with retainer glands, 1.03kPA(150 psi), conforming to AWWA C-110 and/or AWWA C-153, AWWA C-104 and AWWA C-111.

Tapping Sleeve.

Water main tapping sleeves shall be mechanical joint, cast iron body split tapping sleeve, type "Mueller" model No. 615 for ductile iron and cast iron water mains.

Hydrants.

Mueller Super Centurion 250 Model A-423, 5 1/4" barrel, 2-2 1/2" hose connections, 1-4 1/2" steamer connection, 1 ½" pentagon operating nut, open counter-clockwise, conforming to AWWA C-502.

Blow Off.

Blow Off shall consist of 1M-150 DIP Class 52, 150MM Resilient Seat Gate Valve, Valve Anchoring Tee, Valve Box and appearances.

622.03 Construction Requirements
THE FOLLOWING IS ADDED:

Construction requirements for ductile iron water pipe shall conform to the requirements of Section 602 and Township of Freehold including testing and disinfecting. Unless otherwise shown on the Contract Drawings, pipe shall have a minimum cover of four feet and a maximum of 8 feet unless otherwise approved by the Township.

Install ductile iron pipe in accordance with AWWA C 600.

Place crushed stone bedding and finish the bottom of the trench by hand and compact to support the pipe barrel for its entire length.

Provide holes at bell or mechanical joint locations of the minimum size required to make up the joints.

If groundwater is encountered, prevent its accumulation in the trench bottom by methods approved by the Engineer. No pipe shall be installed if there is water in the trench at or above the level of the bottom of a bell or mechanical joint.

Over-excavation and the use of timber blocking beneath the pipe may be permitted where the groundwater volume is such that in the opinion of the Engineer, the Contractor is unable to maintain groundwater accumulation below the level of the bottom of a bell or mechanical joint.

Prior to their placement in the trench, all pipes, valves, fittings and/or any other pipeline accessories shall be inspected in the presence of the Engineer to verify that they are internally clean and free of damage of the materials, linings and coatings. Damaged units shall be repaired to the satisfaction of the Engineer or removed from the construction site and replaced, all at no additional cost to the State of NJ and Township of Freehold. When lowering pipe into the trench and joining the units the interior of the pipeline remains clean.

Thrust blocks are required at all fittings, designed for 150psi test pressure and 2000 lb/sq ft. soil bearing pressure. Thrust block shall be poured of a minimum 3000 psi concrete.

Close all openings in the pipeline with watertight plugs when pipe laying is stopped at the conclusion of any work period or interrupted for any reason.

Water Main Valve Boxes shall be plumb and centered over the valve. They shall be free of silt and debris. The valve boxes shall be set to finish grade and provided with a concrete collar, if situated out of the pavement area. Valve boxes shall be cleaned of asphalt at the seams, pickholes and the surface of the cover.

Fire hydrants bury line shall be set to finish grade. The main nozzle shall be situated perpendicular to the face of the curb. The operating nut shall not be worn, all chains shall be attached to the caps and surrounding area adjusted to the finish grade.

Flushing and Disinfection.

Disinfection of the water main shall be done in accordance with the AWWA Standard C651 latest revision," American Water Works Association Standard for Disinfecting Water Mains." Following the application of the chlorine in the installed water main section, the chlorine solution will need to be in contact with the pipe for a minimum period of 24 hours, with chlorine residual reading of 50 parts per million. Upon completion of the 24 hour holding period, a Township representative shall be scheduled to take chlorine residual samples at various in order to verify the 50 PPM residual. Once approved, a thorough flushing of the newly laid pipe line at its extremities shall be started until the replacement water through its length becomes equal in quality to the Township's existing distribution system. All heavily chlorinated water shall be de-chlorinated and properly disposed of as approved by the Township.

All work of flushing and sterilizing shall be the responsibility of the contractor, and completed under the supervision of a Township representative. Following the completion of sterilization and flushing, the system shall be isolated and locations along the water main system will be selected by the Township representative to take bacteriological samples. The first set of samples shall be taken 24-hours following the thorough flushing of the water main system, the second set of samples shall be taken 48-hours from the time of flushing at each selected location. No flushing shall be performed during the bacteriological testing procedure. All samples shall be taken by a representative of a certified testing laboratory, licensed in the State of New Jersey and samples tested for potability. All test results shall be submitted to the Township representative for determination of acceptability prior to the activation of water main system.

Pressure Test.

After completion of the pipeline installation, but prior to final connection to the existing system, Hydrostatic test shall be done in accordance with AWWA Standard C600 and shall be performed under the supervision of the Township representative. The line shall be completely filled with water under the supervision of a Township

representative, all air expelled and a hydrostatic pressure leakage test performed. The hydrostatic testing should be conducted following the disinfection of the water main system and prior to the bacteriological testing. All piping shall be tested prior to connection with the existing system unless otherwise approved. The contractor shall furnish all labor, material and equipment for performing these tests, including calibrated pressure gauges, test bulkheads, filling, drainage and air release connections and valves, calibrated drum and test pump. All test water and equipment shall be clean and disinfected.

All portions of the new water main, valves and appurtenances will be tested under an average hydrostatic pressure of 1.03 kPA (150 pounds per square inch) applied at the lowest part of the section of the line under test. The maximum length of pipe to be tested at one time shall not exceed 305M(1000 feet). The pressure shall not be allowed to exceed 160psi or drop below 140 psi during the test. Upon reaching the lower pressure limit of 140 psi during the time of the test, a portion of the calculated water allowance shall start to be used to maintain the starting pressure between 150 and 160 psi. At the end of the test period, the makeup water will be utilized to restore the line to the initial starting pressure. Test leakage will be the total quantity of water utilized to maintain and restore test pressure. Under the foregoing conditions, all visible leaks shall be corrected and the maximum allowable leakage will be 11.65 gallons per inch diameter per mile per day. The duration of the pressure test shall be at least two hours. In the event that the section under test fails to meet the allowable leakage, the contractor shall make all necessary repairs and repeat the test. The test shall be repeated as many times as is necessary to meet allowable leakage specified above.

622.04 Method of Measurement

THE FOLLOWING IS ADDED:

Water Service Connection, will not be measured, and will be payment will be made on a lump sum basis. Blow off will be measured by the number of units.

622.05 Basis of Payment

THE FOLLOWING PAY ITEMS ARE ADDED:

Pay item	*Pay Unit*
WATER SERVICE CONNECTION	LUMP SUM
BLOW OFF	UNIT

DIVISION 700 - ELECTRICAL

SECTION 706 - INTELLIGENT TRANSPORTATION SERVICES FACILITIES

706.02 Materials and Equipment
THE FOLLOWING IS ADDED

Other materials and equipment shall conform to the following:

1. **Controller Assembly, Type 8CL.** Controller assemblies, type 8CL shall conform to NJDOT EBM-TSC-8CL.
Each controller assembly shall be mounted on a 457MM aluminum skirt with adjustable shelves. The 457MM aluminum skirt shall be of the same manufacturer as of the controller cabinet.
Controller assemblies, type 8CL shall also include an uninterruptable power source (UPS) unit in each controller cabinet installed. The UPS unit shall conform to the following criteria:

    1. All interconnecting harnesses shall be heavy duty with military type connectors.
    2. The UPS unit shall be capable of running the intersection on flash for a minimum of 2 hours at 600 watts.
    3. The UPS unit shall be warranted for a minimum of 2 years.
    4. The UPS unit shall be Clary SP 1000 Traffic UPS System or approved equal.

The UPS unit shall be shelf-mounted and the battery pack shall be shelf mounted on the side wall of the controller cabinet skirt.
The Contractor shall submit catalog cuts and provide a fully wired cabinet for review and acceptance depicting placement of a fully equipped controller cabinet with UPS equipment and battery pack before final approval is given to proceed with the installation.
One laptop computer shall be supplied to the Office of Traffic Signal and Safety Engineering. The fully equipped laptop shall consist of (as a minimum) a Pentium III Processor – 1 GHZ, 338MM XGA Active Matrix Color Display, 128MB SDRAM, 20.0 GB Hard Drive, V.90/56K Fax Modem, 6X DVD Drive & 1.44MB Floppy Drive.

2. **Fiber Optic Termination Cable.** Fiber Optic Termination Cable shall consist of the furnishing and installing of cable, cleaning of conduit; code-coding, cable tags, connectors, fusion splicing and termination of fibers, racking, and testing.
3. **12.2 M Camera Relocation y.** 12.2 M Camera Relocation shall consist of the removal, storage, and reinstallation of an existing camera standard assembly. Included in this item is the testing of the operation of the camera assembly prior to removal, disconnecting of existing wire and fiber optic cables, terminating the new wire and fiber, camera adjustment and testing.

706.03 Construction Requirements
THE FOLLOWING IS ADDED:

The provisions of Section 701 and 702 shall apply.
The contractor shall update the computer graphics of the existing NJDOT Fiber Optic Closed Loop Traffic Surveillance System located at the Traffic Operations Center to reflect the revisions performed as part of the project.
Prior to the start of construction, the contractor shall test the operation of the existing fiber optic system and its components. Testing shall include: the verification with NJDOT Traffic Operations North of the operation of the respective fiber optic system and its components ; the physical inspection of the fiber optic cables and equipment; the testing of all fibers with a power meter and an OTDR for attenuation in order to document the present condition of the existing fibers. The contractor shall connect to every fiber (including spares) and perform an end to end test from the fiber terminations in the CCTV camera and the controller assembly to their terminations in the field terminal cabinets located at Route 9 & Route 33 interchange and at Route 9 & Stanley Blvd –North Woods Pl. intersection respectively. Fibers shall be tested at 1310nm and 1550nm. Cutting of the fibers or opening of splices shall not be permitted to perform these tests. Test results shall be recorded, dated, and compared to the previous tests on file with the Department. Attenuation testing results, which deviate from the previous tests on file, shall be brought to the attention of the Engineer. Copies of traces and test results shall be submitted to the Engineer. Cables shall not be removed until all of the tests have been completed and approved in writing by the Engineer

Testing of fiber optic cables shall be conform to the requirements stated in the New Jersey Electrical Material Specifications for the respective cables, splice enclosures and connectors and to the following.

Prior to field testing, the contractor shall provide detailed test procedures for all field-testing. The procedures shall include the tests involved, how the tests are to be conducted and the exact location or portion of the system to be tested. The test plans shall be subject to the approval of the Engineer. The Engineer shall be notified 72 hours prior to all field tests. The Department reserves the right to witness all testing.

The contractor shall provide all personnel, equipment, instrumentation, and material necessary to perform all testing. Fiber optic cable, splice and connector attenuation tests shall be performed with a power meter and an OTDR (optical time domain reflectometer) field unit with printer. The specification for the OTDR and printer are included in the New Jersey Electrical Material Specifications EBM-FOC SMLTT-1. The contractor is to deliver OTDR reading in electronic format with appropriate software and two sets of printed reports in binders. Power meter reader measurements shall be provided in electronic format (lotus or excel spreadsheet).

At the conclusion of all field splicing, but before the splices are enclosed and sealed in a splice enclosure, all splices shall be tested with the ODTR and power meters. Splices segments shall be tested at 1310 nm and 1550 nm. Individual fusion splice losses shall not exceed 0.05 db. Measurement results shall be recorded, dated, validated by the fusion splicer. Copies of the test results shall be submitted to the Engineer. If the test results are unsatisfactory, the unsatisfactory splice shall be replaced at the contractor's expense. The new splice shall then be tested.

Testing of field installed fiber optic connectors, type ST shall be by the use of an OTDR, as described for the testing of fiber optic cable splices.

After the fiber optic cables has been reinstalled and splicing completed, the contractor shall retest all fibers with a power meter and OTDR for attenuation as stated above. These test results shall be compared to the test results performed by the contractor prior to removal and if these test results deviate by more than 5 per cent, the contractor shall replace the defective material at his own expense

After all terminations have been completed, the successful operation of the fiber optic system and its components shall be demonstrated to the NJDOT Traffic Operation North. The contractor shall provide the Engineer with written verification from Traffic Operation North that the fiber optic system and its components have been returned to their pre-construction status.

The contractor shall not disturb the main fiber optic trunk cable system located within the Route 9 medium. The contractor shall schedule his construction in such a manner as to limit any disturbances to the continuous operation of the CCTV camera system to two (2) durations of eight (8) hours or less. The contractor shall schedule his construction in such a manner as to limit any disturbances to the Traffic Operations' continuous remote control of the traffic signal controller to two (2) durations of eight (8) hours or less. The contractor shall notify the Engineer & Traffic Operations 72 hours for approval prior to performing any work on the existing fiber optic system, CCTV camera, traffic signal controller and their components. The contractor shall submit for approval a scheme for maintenance of operation of the CCTV camera and remote control of the traffic signal controller

During the installation of fiber optic cable, the bend radius shall be maintained for each type of fiber optic cable as stated in the specifications for the respective cable. Wrapping or coiling of the fiber optic cable is permissible as long as the minimum bend radius constraints are not violated.

Leading ends of the cable shall be completely sealed to prevent intrusion of water or other foreign material during the installation process. The manufacturer's maximum cable pulling tension shall not be exceeded during cable installation. The fiber optic cable shall be pulled with a mechanical device that pulls the cable with a controlled force and the device will automatically disconnect prior to exceeding the manufacturer s maximum pulling tension.

Alternate methods for the installation of the fiber optic cable may be proposed by the contractor. The contractor shall submit the alternate installation method in writing to the Engineer for approval. The contractor assumes all liability and risk in the event that an alternative installation plan is utilized. Alternate methods approved by the Engineer will not constitute grounds for extra compensation or reasons of delay.

Slack in the installed cable shall conform to the quantities shown below:

Location Category	Cable Type	Slack (Meters)
965 mm JB	trunk	20
965 mm JB	termination	10
450 x 900 mm JB	trunk	10
450 x 900 mm JB	termination	10
device	trunk	3
device	termination	3

When existing fiber optic cables are to be removed and reinstalled, the length of cables shall not be altered. Contractor shall notify the Engineer prior to removal of an existing cable if the contractor believes the length of cable is inadequate for reinstallation.

All cables shall be color coded on the outer jacket. The color codes for various types of cables shall conform to plans.

Each cable shall be identified with cable tags in all junction boxes and cabinets. The identification tag shall be a round brass disk with a diameter of 5cm and a thickness of approximately 1.02mm a 5mm hole shall be drilled or punched in the disk, approximately 5mm from the edge for securing the disk to the cable. The disk shall be secured to the cable by a plastic tie, sufficiently tight to keep the disk in place, but the tie or tag shall not pinch or bind the cable.

The lettering on the identification tag shall be stamped in the disk without puncturing the metal and shall be fully legible. The letters shall be capitals and shall be approximately 10mm in height. The legend on the disk shall have 3 lines and conform to the following format:

1st line is NJDOT
2nd line is FIBER-OPTIC
3rd line is (description shown on plans)

Splicing of the fiber optic cables shall be made only in junction boxes and cabinets. Splice kits shall conform to Section 706.02. All splices of optical fibers shall be fusion splices. Factory trained and certified technicians with three years of fiber optic splicing experience (fusion splice) shall perform all fusion splicing. The cable manufacturer's suggested fusion splice methods shall be followed. All splices shall be tested as specified.

The termination cable, 8 fibers shall be installed continuous from the trunk cable to the controller assembly and camera standard assembly. The termination cable, 8 fibers has been assigned a standard conductor schedule, based on the assumption that each device requires two dedicated fibers, one dedicated spare, and one party line spare that is terminated at each drop along the trunk line. Fiber assignments are as follows:

1= party spare (from origination)
2= service fiber 1 (from origination)
3= service fiber 2 (from origination)
4= dedicated spare (from origination)
5= party spare (beyond)
6= service fiber 1 (beyond)
7= service fiber 2 (beyond)
8=dedicated spare (beyond)

All connectors on termination cable shall be factory-installed. The attachment of the connector shall be in strict conformance to the manufacturer s instructions.

The cost for connectors, splicing, testing, color-coding, tagging and racking shall be included in the items for the various types of cable and reinstalled cable.

Demolition and reconstruction of the roadway where rigid nonmetallic fiber optic conduit exists shall be performed in the manner outlined below:

- Request NJDOT field mark out of the concrete encased fiber optic system location.
- Any excavation within 0.3 meters of the concrete encased fiber optic conduit shall be performed by hand.
- Any compaction within 0.3 meter of the concrete encased fiber optic conduit shall be performed by hand vibratory compactors.
- Extreme care shall be taken when compacting and rolling the various courses. The roller shall be position to straddle the concrete encasement so the load weight is disbursed onto the pavements and soils surrounding the encasement. If during construction operations, the Engineer deem it necessary a smaller roller shall be utilized.
- Additional safety precautions shall be undertaken as necessary and / or as determined by the Engineer to avoid damage to the fiber optic system.

706.04 Method of Measurement.

THE FOLLOWING IS ADDED:

Controller Assemblies, Type 8CL will be measured by the number of units
Fiber Optic Termination Cable will be measured by the linear meter.
12.2 M Camera Relocation will be measured by the number of units
Foundation, Type Camera will be measured by the number of units

706.05 Basis of Payment.

THE FOLLOWING PAT ITEMS ARE ADDED:

Payment will be made under:

Pay Item	*Pay Unit*
CONTROLLER ASSEMBLIES, TYPE 8CL	UNIT
FIBER OPTIC TERMINATION CABLE.	LINEAR METER
12.2 M CAMERA RELOCATION	UNIT
FOUNDATION, TYPE CAMERA	UNIT

Service Wire, No. 8 AWG and Fiber Optic Termination Cable installed with in the relocated 12.2 M Camera shall be paid for under their respective pay items.

Separate payment will not be made for cleaning conduit, connectors, splicing, termination, testing, color-coding, tagging and racking.

Separate payment will not be made for UPS unit with battery pack and laptop computer. All cost thereof shall be included in the bid item, Controller Assemblies, Type 8CL.

Separate payment will not be made for the 457MM aluminum skirt. All cost thereof shall be included in the price bid the bid item, Controller Assemblies, Type 8CL.

All costs for the updating of the existing NJDOT Fiber Optic Closed Loop Traffic Surveillance System computer graphics at the Traffic Operations Center will be included in the bid item, Controller Assemblies, Type 8CL .

All costs for maintenance of operation of the CCTV camera during construction shall be included in the bid item, 12.2 M Camera Relocation.

All costs for maintenance of operation of remote control of the traffic signal controller during construction shall be included in the bid item, Controller Assemblies, Type 8CL.

DIVISION 800 – LANDSCAPING

SECTION 808 - FERTILIZING AND SEEDING

808.05 Basis of Payment.

THE SECOND PARAGRAPH IS CHANGED TO:

Payment will not be made for areas of fertilizing and seeding disturbed by Construction Operations, beyond the prescribed grading limits in islands and medians, and between prescribed grading limits and the right-of-way line, except as follows:

all areas within the right-of-way limits approved for storage of topsoil.

SECTION 813 – PLANTING

813.03 Construction Requirements.

8. Pruning

THE FIRST PARAGRAPH IS DELETED

THE FIRST SENTENCE OF THE SECOND PARAGRAPH IS CHANGED TO:

Pruning of newly planted trees and shrubs shall be limited to the removal of diseased, weak, broken and interfering branches.

813.05 Plant Establishment Period and replacements.

THIS SUBSECTION IS DELETED:

THE FOLLOWING IS ADDED TO THIS SECTION;

PLANT EXTENDED ESTABLISHMENT PLAN

Description.

The work shall consist of the replacement of all plants that have been identified as not being alive and healthy at the beginning of each prescribed interval after the plantings have been accepted. The work shall also include weeding, spraying with herbicide, insecticide or fungicides, pruning, repairing and adjusting of guy stakes, the restoration of all areas that are disturbed or damaged during the replacement period and the securing of a Prepaid Maintenance Bond and an approved Highway Occupancy Permit for the entire "Establishment" period. Additionally, insurance requirements listed under subsection 107.23, parts 1, 2 and 4 shall remain in effect for the duration of the "Establishment" period.

The dates for plant acceptance are June 1 for Spring planting and December 1 for Fall planting. No split acceptance will be allowed. Once a date for Plant acceptance has been established by the Engineer the interval for the replacement periods shall be as follows:

June 1 Plant acceptance:

1. August 15 to December 1- replacement period
2. March 1 to May 1 – replacement period
3. August 15 to December 1 – replacement period
4. March 1 to May 1 – replacement period

December 1 Plant acceptance:

1. March 1 to May 1 – replacement period
2. August 15 to December – replacement period
3 March 1 to May 1 – replacement period
4 August 15 to December 1 – replacement period

Plantings will be determined as "Established" two years from the date of acceptance of the initial plantings.

Materials.

Reference: Subsection 813.02

Method of Construction.

10 Working days prior to the commencement of each replacement period a listing of all plantings that shall require replacing will be submitted to the contractor by the Landscape and Urban Design Unit (phone: 609-530-5670).

During the plant establishment period at the aforementioned intervals, all planting beds, hedges and individual plants shall have all weeds sprayed with a herbicide and treated with a pre-emergence herbicide. All plantings shall be provided with sufficient water during the entire establishment period.

All plants that are not alive and healthy at the beginning of each interval period as determined by Landscape and Urban Design Unit, shall be replaced in kind, quantity and size with acceptable live, healthy plants installed as originally specified. Replacements shall include any plantings that were replaced in a previous interval that have become other than alive and healthy. The Landscape and Urban Design Unit reserves the right to allow substitute varieties of plants to be used in its sole discretion.

At each interval, all weeds, debris and damaged plant materials shall be removed and disposed of in accordance with Subsection 201.10. Holes resulting from the theft of plants shall be filled during each replacement interval.

Replacement planting shall conform to the requirements for initial planting except as follows:

1. Existing wood chips shall be removed and may be reused if salvageable and conforming to Subsection 909.04.
2. Backfilling may be made with excavated materials which does not contain wood chips or other objectionable materials.

Replacement of Evergreen materials shall be made from March 1 to May 1 and from August 15 to December 1. Replacement of Deciduous material shall be made from March 1 to May 1 and from October 15 to December 1.

All stakes, guys and guy wires shall be removed two weeks prior to the conclusion of the 2 year plant establishment period.

When lane or shoulder closures are required during the extended establishment period, these closures shall conform to all the traffic control requirements set forth in the Highway Occupancy Permit.

Method of Measurement.

"Plant Extended Establishment Plan", will not be measured, and payment will be made on a Lump Sum basis

Basis of Payment.

Payment will be made under:

Pay Item	*Pay Unit*
PLANT EXTENDED ESTABLISHMENT PLAN	LUMP SUM

Separate payment will not be made for Replacement Plantings but all costs thereof shall be included in the Lump Sum price bid for the item Plant Extended Establishment Plan.
Separate payment will not be made for Watering
Separate payment will not be made for Traffic Control Items.
Separate payment will not be made for the application of herbicides, insecticides or fungicides.
Separate payment will not be made for insurance; all costs of procuring and maintaining required insurance policies and making the State an additional insured as specified, shall be at the Contractor's own expense.
Separate payment for the maintenance bond will not be made. All costs of procuring a maintenance bond as specified shall be at the contractor's own expense.

Separate payment will not be made for overhead and profit nor any other costs incurred by the contractor so as to perform this item; payment for all associated work and costs under this item will be limited to the lump sum payment and will not be adjusted for any reason.

Payment for this item will not be made to the Contractor until such time that the Project has reached Substantial Completion (See Subsection 108.10) and the Prepaid Maintenance Bond is in place and the Highway Occupancy Permit has been approved by the Department. Said Bond and Permit will remain in effect for the entire Establishment period or until it is determined by the Landscape and Urban Design Unit that they are no longer required. The maintenance bond to be procured by the contractor prior to payment for this item shall be furnished by only those sureties listed in the US Treasury Department Circular 570 and authorized to do business in this State. The bond shall be accompanied by a certification as to authorization of the attorney-in-fact to commit the surety company and a true and correct statement of the financial condition of said surety company. The bond shall be the sum of not less than $100,000.00 and shall be maintained for a period of at least two years from the date of the acceptance of the initial plantings as established by the Engineer. In the event of insolvency of the surety or if the maintenance bond has not been properly authorized or issued by the surety company, the contractor shall furnish and maintain, as above provided, other surety satisfactory to the Commissioner. All work required under this item may be made without the consent of the surety company. The bond shall be furnished on forms supplied by the Department.

A FORM "MT-120A 1/80" AND A "SAMPLE MAINTENANCE BOND" MUST BE PROVIDED WITH THE ADDENDUM. ADDITIONALLY THE FOLLOWING INFORMATION MUST BE INCORPORATED INTO THE MT 120A WHERE IT STATES "DESCRIBE PROJECT".

Permit Description

The work shall consist of the replacement of all plants that have been identified by the Landscape and Urban Design Unit as not being alive and healthy at the beginning of each prescribed interval after the plantings have been accepted. The work shall also include weeding, spraying with herbicide, insecticide or fungicides, pruning, repairing and adjusting of guy stakes and the restoration of all areas that are disturbed or damaged during the replacement period.

Once a date for Plant acceptance has been established by the New Jersey Department of Transportation (NJDOT) Route 9 & CR 524, the interval for the replacement periods shall be designated by the NJDOT Landscape and Urban Design Unit as follows:

June 1 Plant acceptance:

1. August 15 to December 1- replacement period
2. March 1 to May 1 – replacement period
3. August 15 to December 1 – replacement period
4. March 1 to May 1 – replacement period

December 1 Plant acceptance:

1. March 1 to May 1 – replacement period
2. August 15 to December – replacement period
3. March 1 to May 1 – replacement period
4. August 15 to December 1 – replacement period

Plantings will be determined as "Established" two years from the date of acceptance of the initial plantings.

10 Working days prior to the commencement of each replacement period a listing of all plantings that shall require replacing will be submitted to the contractor by the NJDOT Landscape and Urban Design Unit (phone: 609-530-5670).

During the plant establishment period at the aforementioned intervals, all planting beds, hedges and individual plants shall have all weeds sprayed with a herbicide and treated with a pre-emergence herbicide. All plantings shall be provided with sufficient water during the entire establishment period.

All plants that are not alive and healthy at the beginning of each interval period, as determined by the Landscape and Urban Design Unit, shall be replaced in kind, quantity and size with acceptable live, healthy plants

installed as originally specified. Replacements shall include any plantings that were replaced in a previous interval that have become other than alive and healthy. The Landscape and Urban Design Unit reserves the right to allow substitute varieties of plants to be used in its sole discretion.

At each interval, all weeds, debris and damaged plant materials shall be removed and disposed of in accordance with Subsection 201.10*. Holes resulting from the theft of plants shall be filled during each replacement interval.

Replacement planting shall conform to the requirements for initial planting except as follows:

1. Existing wood chips shall be removed and may be reused if salvageable and conforming to Subsection 909.04*.
2. Backfilling may be made with excavated materials which does not contain wood chips or other objectionable materials.

Replacement of Evergreen materials shall be made from March 1 to May 1 and from August 15 to December 1. Replacement of Deciduous material shall be made from March 1 to May 1 and from October 15 to December 1.

All stakes, guys and guy wires shall be removed two weeks prior to the conclusion of the 2 year plant establishment period.

When lane or shoulder closures are required during the extended establishment period, these closures shall conform to all the traffic control requirements set forth in the Highway Occupancy Permit, these traffic control requirements are further described as contained in the NJDOT Construction Plans for this project.

The Permittee has been previously compensated for all work described above.

*Refers to the New Jersey Department of Transportation (NJDOT) 2001 Standard Specifications for Road and Bridge Construction.

THE FOLLOWING IS ADDED TO THIS DIVISION:

MEMORIAL MONUMENT REHABILITATION

Description.

This work shall consist of the removing, storing, cleaning and rehabilitating of the two plaques and the granite blocks in the wall of the Lila W. Thompson Memorial Monument, the relocation of the monument sign from its current location to the location shown on the plans or as directed by the Engineer and the construction and installation of a granite marker as shown on the plans upon which the restored plaques shall be attached.

Materials.

The granite marker shall be sound, durable, crack-free granite complying with the geological classification of Subsection 901.04. The color shall be pink with a medium to course grain and uniform in color with a thermal finish. Samples shall be submitted to the Landscape and Urban Design Unit for review and approval prior to contractor purchase.

Other materials shall conform to the following Subsections.

Topsoil 909.10
Mortar and Grout 914.03
Epoxy..... 919.17

Construction Requirements.

Excavation and Removal.

The Contractor shall carefully remove the two dedication plaques from the stone. The plaques shall be cleaned and restored by an experienced contractor. The monument sign shall be removed. The existing granite block wall shall be dismantled. The existing mortar shall be carefully removed from the granite blocks. The stone, the four concrete pillars and attached chains shall be removed and disposed according to Subsection 201.10.

Storage.

The plaques, granite blocks, and monument sign shall be transported to a location designated by the Engineer and stored in a secure area until time of reuse.

Granite Marker.

The granite marker shall be cut from a single piece of granite of standard architectural grade, free of cracks, seams or starts which may impair its structural integrity. It shall be located and anchored to the foundation as shown on the plans and cleaned prior to the attachment of the restored dedication plaques. The plaques shall be attached to the granite marker by epoxy adhesive.

Granite Block Pavers.

The area to receive the reclaimed granite blocks shall be excavated to the desired depth and the subgrade firmly compacted. A 100mm thick dense-graded aggregate base shall be placed on the compacted subbase and the concrete base for the granite block paving shall be constructed on this prepared subgrade. While the concrete is still green, the top of the concrete base shall be scarified with stiff wires or fiber brushes to allow for a good bond between the concrete base and the mortar setting bed. A 20mm thick mortar setting bed shall be placed on the concrete base and the granite block shall be placed on the setting bed around the granite marker in a pattern as approved by the NJDOT Landscape and Urban Design unit. The exact placement shall be in accordance with the plans and at the direction of the Engineer. The joints between the granite block pavers shall be completely filled with mortar to a typical width of 13mm to 20mm. Joints shall be tooled with a concave jointer when the mortar becomes thumbprint hard. The exposed granite surface shall be protected from excess mortar to avoid staining and cleaning. If the Resident Engineer determines that cleaning is necessary, a solution of muriatic acid and water, in a solution as dilute as needed to clean the granite block surface shall be utilized. Prior to cleaning, the granite block shall be thoroughly wet. The granite block surface shall be scrubbed using fiber brushes with the muriatic acid solution until the mortar stains have been removed. The surface shall then be thoroughly rinsed with water. The wet laid granite block paving shall be protected from damage due to weather related conditions. The wet laid granite block paving shall be allowed to set in an undisturbed condition for a period of at least three days. Areas of wet laid granite block paving that are damaged, stained or are otherwise unacceptable shall be replaced at no cost to the state. The monument sign shall be reset as directed by the Engineer.

Method of Measurement.

Payment for Memorial Monument Rehabilitation will be made on a lump sum basis.

Basis of Payment.

Payment will be made under:

Pay Item	*Pay Unit*
MEMORIAL MONUMENT REHABILITATION	LUMP SUM

No separate payment shall be made for excavation, backfilling, compaction or for any materials related to this item. All costs shall be included in the unit price bid for the item Memorial Monument Rehabilitation.

BUS SHELTER RELOCATION

Description.

This work shall consist of the relocation of the bus shelter located at the intersection of Route 9 and County Route 524, including removal as a unit from the existing location, temporary storage of the shelter, removal of the existing concrete base, and installation of the existing shelter on a new concrete base.

Materials.

The new concrete base shall conform to the provisions of Section 607.

Construction Requirements.

Prior to beginning work the Contractor shall inspect the bus shelter, noting the condition of the shelter including broken and missing elements and paint to removed existing graffito, and give a copy of the report to the Engineer. The bus shelter shall be removed for storage as a unit, saving the existing attachment fittings for reuse, and the existing concrete base removed and disposed of in accordance with Subsection 201.10.

The new concrete base shall be constructed at the location shown on the plans and the shelter installed, using the existing attachment fittings. The Contractor shall provide new stainless steel anchor bolts of a type which cannot be disassembled with common hand tools.

Method of Measurement.

Relocate bus shelter will be measured by the number of each.

Basis of Payment.

Payment will be made under:

Pay item	*Pay Unit*
BUS SHELTER RELOCATION	UNIT

Separate payment will not be made for the concrete base or the stainless steel anchor bolts with related hardware but all costs shall be included in price bid for Relocate Bus Shelter.

DIVISION 900 - MATERIALS

SECTION 902 - BEAM GUIDE RAIL

902.02 Posts, Timber and Routed Timber Spacers, and Recycled / Synthetic Spacers.
The approved manufacturers are Lifetime Lumber and Mondo Polymer Technologies, Polylumber.

SECTION 903 – HOT MIX ASPHALT

903.01 Composition of Mixtures.
For this Project, the 25 percent or less RAP requirements shall govern.

SECTION 904 - BITUMINOUS MATERIALS

904.01 Asphalt Binder.
THE FIRST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Asphalt binder shall conform to AASHTO M320, "Performance-Graded Asphalt Binder".

904.06 Temperature-Volume Correction Factors.
SUBSECTION IS CHANGED TO:

Temperature-volume correction factors that shall be used to convert the volume of bituminous materials, measured at the temperature at the point of use, to the volume at 15°C are found in the following tables:

Table 904-1 Temperature-Volume Correction Factors for Bituminous Materials

Asphalt Binder, All Grades.
Cut-Back Asphalt, Grades RC-800, RC-3000, MC-800, and MC-3000.
Inverted Emulsified Asphalt, Grade IEMC-800.

Temp (°C)	Factor	Temp (°C)	Factor	Temp (°C)	Factor	Temp (°C)	Factor
5	1.006 3	30	0.990 6	55	0.975 1	80	0.959 7
6	1.005 7	31	0.990 0	56	0.974 5	81	0.959 1
7	1.005 0	32	0.989 3	57	0.973 8	82	0.958 5
8	1.004 4	33	0.988 7	58	0.973 2	83	0.957 9
9	1.003 8	34	0.988 1	59	0.972 6	84	0.957 3
10	1.003 1	35	0.987 5	60	0.972 0	85	0.956 7
11	1.002 5	36	0.986 9	61	0.971 4	86	0.956 1
12	1.001 9	37	0.986 2	62	0.970 8	87	0.955 5
13	1.001 3	38	0.985 6	63	0.970 1	88	0.954 9
14	1.000 6	39	0.985 0	64	0.969 5	89	0.954 2
15	1.000 0	40	0.984 4	65	0.968 9	90	0.953 6
16	0.999 4	41	0.983 7	66	0.968 3	91	0.953 0
17	0.998 7	42	0.983 1	67	0.967 7	92	0.952 4
18	0.998 1	43	0.982 5	68	0.967 1	93	0.951 8
19	0.997 5	44	0.981 9	69	0.966 5	94	0.951 2
20	0.996 9	45	0.981 3	70	0.965 8	95	0.950 6
21	0.996 2	46	0.980 6	71	0.965 2	96	0.950 0
22	0.995 6	47	0.980 0	72	0.964 6	97	0.949 4
23	0.995 0	48	0.979 4	73	0.964 0	98	0.948 8
24	0.994 4	49	0.978 8	74	0.963 4	99	0.948 2
25	0.993 7	50	0.978 2	75	0.962 8	100	0.947 6
26	0.993 1	51	0.977 5	76	0.962 2	101	0.947 0
27	0.992 5	52	0.976 9	77	0.961 6	102	0.946 4
28	0.991 8	53	0.976 3	78	0.960 9	103	0.945 8
29	0.991 2	54	0.975 7	79	0.960 3	104	0.945 2

Table 904-1 (Continued)

Temp (°C)	Factor	Temp (°C)	Factor	Temp (°C)	Factor	Temp (°C)	Factor
105	0.944 6	130	0.929 6	155	0.914 5	180	0.900 2
106	0.944 0	131	0.929 0	156	0.914 2	181	0.899 6
107	0.943 4	132	0.928 4	157	0.913 6	182	0.899 0
108	0.942 8	133	0.927 8	158	0.913 0	183	0.898 4
109	0.942 2	134	0.927 2	159	0.912 4	184	0.897 9
110	0.941 6	135	0.926 6	160	0.911 9	185	0.897 3
111	0.941 0	136	0.926 0	161	0.911 3	186	0.896 7
112	0.940 4	137	0.925 4	162	0.910 7	187	0.896 1
113	0.939 8	138	0.924 8	163	0.910 1	188	0.895 5
114	0.939 2	139	0.924 2	164	0.909 5	189	0.895 0
115	0.938 6	140	0.923 6	165	0.908 9	190	0.894 4
116	0.938 0	141	0.923 1	166	0.908 3	191	0.893 8
117	0.937 4	142	0.922 5	167	0.907 8	192	0.893 2
118	0.936 8	143	0.921 9	168	0.907 2	193	0.892 6
119	0.936 2	144	0.921 3	169	0.906 6	194	0.892 1
120	0.935 6	145	0.920 7	170	0.906 0	195	0.891 5
121	0.935 0	146	0.920 1	171	0.905 4	196	0.890 9
122	0.934 4	147	0.919 5	172	0.904 8	197	0.890 3
123	0.933 8	148	0.918 9	173	0.904 2	198	0.889 8
124	0.933 2	149	0.918 3	174	0.903 7	199	0.889 2
125	0.932 6	150	0.917 7	175	0.903 1	200	0.888 6
126	0.932 0	151	0.917 1	176	0.902 5	201	0.888 0
127	0.931 4	152	0.916 6	177	0.901 9	202	0.887 5
128	0.930 8	153	0.916 0	178	0.901 3	203	0.886 9
129	0.930 2	154	0.915 4	179	0.900 8	204	0.886 3

Table 904-2 Temperature-Volume Correction Factors for Bituminous Materials

Cut-Back Asphalt, Grades RC-T, RC-70, RC-250, MC-30, and MC-250.
Inverted Emulsified Asphalt, Grade IEMC-250.

Temp (°C)	Factor	Temp (°C)	Factor	Temp (°C)	Factor	Temp (°C)	Factor
5	1.007 2	30	0.989 3	55	0.971 7	80	0.954 3
6	1.006 5	31	0.988 6	56	0.971 0	81	0.953 6
7	1.005 7	32	0.987 9	57	0.970 3	82	0.953 0
8	1.005 0	33	0.987 2	58	0.969 6	83	0.952 3
9	1.004 3	34	0.986 5	59	0.968 9	84	0.951 6
10	1.003 6	35	0.985 8	60	0.968 2	85	0.950 9
11	1.002 9	36	0.985 0	61	0.967 5	86	0.950 2
12	1.002 2	37	0.984 3	62	0.966 8	87	0.949 5
13	1.001 4	38	0.983 6	63	0.966 1	88	0.948 8
14	1.000 7	39	0.982 9	64	0.965 4	89	0.948 2
15	1.000 0	40	0.982 2	65	0.964 7	90	0.947 5
16	0.999 3	41	0.981 5	66	0.964 0	91	0.946 8
17	0.998 6	42	0.980 8	67	0.963 3	92	0.946 1
18	0.997 9	43	0.980 1	68	0.962 6	93	0.945 4
19	0.997 1	44	0.979 4	69	0.961 9	94	0.944 7
20	0.996 4	45	0.978 7	70	0.961 2	95	0.944 1
21	0.995 7	46	0.978 0	71	0.960 5	96	0.943 4
22	0.995 0	47	0.977 3	72	0.959 9	97	0.942 7
23	0.994 3	48	0.976 6	73	0.959 2	98	0.942 0
24	0.993 6	49	0.975 9	74	0.958 5	99	0.941 3
25	0.992 9	50	0.975 2	75	0.957 8	100	0.940 7
26	0.992 1	51	0.974 5	76	0.957 1	101	0.940 0
27	0.991 4	52	0.973 8	77	0.956 4	102	0.939 3
28	0.990 7	53	0.973 1	78	0.955 7	103	0.938 6
29	0.990 0	54	0.972 4	79	0.955 0	104	0.937 9

Table 904-2 (Continued)

Temp (°C)	Factor	Temp (°C)	Factor	Temp (°C)	Factor	Temp (°C)	Factor
105	0.937 3	130	0.920 5	155	0.904 0	180	0.887 7
106	0.936 6	131	0.919 8	156	0.903 3	181	0.887 1
107	0.935 9	132	0.919 1	157	0.902 6	182	0.886 4
108	0.935 2	133	0.918 5	158	0.902 0	183	0.885 8
109	0.934 6	134	0.917 8	159	0.901 3	184	0.885 1
110	0.933 9	135	0.917 1	160	0.900 7	185	0.884 5
111	0.933 2	136	0.916 5	161	0.900 0	186	0.883 9
112	0.932 5	137	0.915 8	162	0.899 4	187	0.883 2
113	0.931 9	138	0.915 2	163	0.898 7	188	0.882 6
114	0.931 2	139	0.914 5	164	0.898 1	189	0.881 9
115	0.930 5	140	0.913 8	165	0.897 4	190	0.881 3
116	0.929 8	141	0.913 2	166	0.896 8	191	0.880 7
117	0.929 2	142	0.912 5	167	0.896 1	192	0.880 0
118	0.928 5	143	0.911 8	168	0.895 5	193	0.879 4
119	0.927 8	144	0.911 2	169	0.894 8	194	0.878 7
120	0.927 2	145	0.910 5	170	0.894 2	195	0.878 1
121	0.926 5	146	0.909 9	171	0.893 5	196	0.877 5
122	0.925 8	147	0.909 2	172	0.892 9	197	0.876 8
123	0.925 1	148	0.908 6	173	0.892 2	198	0.876 2
124	0.924 5	149	0.907 9	174	0.891 6	199	0.875 5
125	0.923 8	150	0.907 2	175	0.890 9	200	0.874 9
126	0.923 1	151	0.906 6	176	0.890 3	201	0.874 3
127	0.922 5	152	0.905 9	177	0.889 6	202	0.873 6
128	0.921 8	153	0.905 3	178	0.889 0	203	0.873 0
129	0.921 1	154	0.904 6	179	0.888 4	204	0.872 4

Table 904-3 Temperature-Volume Correction Factors for Bituminous Materials

Emulsified Asphalt, All Grades.

Temp (°C)	Factor	Temp (°C)	Factor	Temp (°C)	Factor
5	1.004 5	31	0.992 8	57	0.981 4
6	1.004 0	32	0.992 3	58	0.981 0
7	1.003 6	33	0.991 9	59	0.980 5
8	1.003 1	34	0.991 4	60	0.980 1
9	1.002 7	35	0.991 0	61	0.979 7
10	1.002 2	36	0.990 5	62	0.979 2
11	1.001 8	37	0.990 1	63	0.978 8
12	1.001 3	38	0.989 7	64	0.978 4
13	1.000 9	39	0.989 1	65	0.977 9
14	1.000 4	40	0.988 8	66	0.977 5
15	1.000 0	41	0.988 4	67	0.977 1
16	0.999 5	42	0.987 9	68	0.976 6
17	0.999 1	43	0.987 5	69	0.976 2
18	0.998 6	44	0.987 1	70	0.975 8
19	0.998 2	45	0.986 6	71	0.975 3
20	0.997 7	46	0.986 2	72	0.974 9
21	0.997 3	47	0.985 8	73	0.974 5
22	0.996 8	48	0.985 3	74	0.974 1
23	0.996 4	49	0.984 9	75	0.973 6
24	0.995 9	50	0.984 4	76	0.973 2
25	0.995 5	51	0.984 0	77	0.972 8
26	0.995 0	52	0.983 6	78	0.972 4
27	0.994 6	53	0.983 1	79	0.972 0
28	0.994 1	54	0.982 7	80	0.971 5
29	0.993 7	55	0.982 3	81	0.971 1
30	0.993 2	56	0.981 8		

SECTION 909 – LANDSCAPING MATERIALS

909.10 Topsoil.

A. Unacceptable Topsoil Sources.

ITEM 1. IS CHANGED TO:

1. Soils having less than 4.1 pH value, or greater than 8.0 pH value.

SECTION 912 - PAINTS, COATINGS, AND MARKINGS

912.10 Pavements Stripes or Markings.

C. Thermoplastic.

THE SECOND AND THIRD SUBPARTS ARE CHANGED TO:

2. For white, the composition of the mixture shall be as follows:

Component	**Percent by weight**
Resin/Binder	22-26 percent
Glass Beads (pre-mix)	30 percent minimum
WhitePigment	10 percent minimum
Calcium Carbonate and Inert Fillers (shall not contain silica other than as glass beads)	34-38 percent

3. Only yellow non-lead formulas shall be used, the composition of the mixture shall be as follows:

Component	**Percent by weight**
Resin/Binder	22-26 percent
Glass Beads (pre-mix)	30 percent minimum
Yellow Pigment	2 percent minimum
Calcium Carbonate and Inert Fillers (shall not contain silica other than as glass beads)	42-46 percent

The yellow material's combined totals of lead, cadmium, mercury, and hexavalent chromium shall not exceed 100 parts per million.

The thermoplastic manufacturer shall certify, according to Subsection 106.04, that the material will meet the requirements specified.

912.12 Removable Pavement Marking Tape and Removable Black Line Masking Tape.

THE SUBSECTION HEADING AND SUBPART A IS CHANGED TO:

912.12 Removable Wet Weather Pavement Marking Tape and Removable Black Line Masking Tape.

A. Removable Wet Weather Pavement Marking Tape. The removable wet weather pavement marking tape shall consist of polymeric, conformable backing materials with a retroreflective surface designed to provide retroreflectivity in wet conditions. The underside of the tape shall be precoated with a pressure sensitive adhesive which bonds the tape to the roadway surface so as to be able to withstand traffic immediately after installation. Primers shall be used to promote tape adhesion to the pavement only in accordance with the tape manufacturers recommendations.

Daylight color of the white tape shall be no darker than color No. 37778 of FED-STD-595B. Daylight color of the yellow tape shall conform to the FHWA color tolerance chart for highway yellow.

When measured with an Advanced Retro Technology (ART) model MX-30 handheld retroreflectometer, the tape shall have initial, minimum retroflectance values conforming to:

Dry Condition – ASTM D 1710
Entrance Angle = 88.76°

Observation Angle (Degrees)	Specific Luminance White	Yellow
1.05	950	500

Note: The angular aperture of both the photoreceptor and the light projector shall be six minutes of arc. The reference axis shall be taken perpendicular to the test sample.

Continuous Wet Condition – ASTM E 2176
Entrance Angle = 88.76°

Observation Angle (Degrees)	Specific Luminance White	Yellow
1.05	750	300

Note: Specific luminance is measured in millicandelas per square foot per foot-candles.

The removable tape shall be capable of being removed manually, intact or in large pieces, at temperatures above 4 °C without the use of solvents, burning, grinding, or blasting. Only tape that has previously received the approval of the Department Bureau of Materials shall be used. Certification of Compliance shall be furnished according to Subsection 106.04.

SECTION 913 - PIPE

913.03 Ductile Iron Water Pipe.
THE FIRST SENTENCE OF THE FIRST PARAGRAPH IS CHANGED TO:

Ductile iron water pipe shall conform to ANSI/AWWA C151/A21.51.

SECTION 914 – PORTLAND CEMENT CONCRETE, MORTOR, AND GROUT

914.02 Portland Cement Concrete Design, Control, and Acceptance Testing Requirements.
B. Proportioning and Verification.
THE SECOND SENTENCE OF THE THIRD PARAGRAPH IS CHANGED TO:

At least six 100 by 200 millimeter test cylinders shall be prepared from each batch and cured according to AASHTO T 23 or AASHTO T 126.

THE FIRST SENTENCE OF THE TENTH PARAGRAPH IS CHANGED TO:

Classes A and B concrete may be designed to achieve early strength requirements by increasing the Cement content.

C. Acceptance Testing Procedures for Slump and Air Entrainment.
THE FIRST SENTENCE OF THE FOURTH PARAGRAPH IS CHANGED TO:

Following any permitted additions, the drum shall be rotated at the recommended mixing speed for a minimum of 30 revolutions without exceeding 300 total revolutions, the original test results shall be disregarded, and a single test for both slump and air entrainment performed.

D. General Acceptance Testing Requirements for Strength.
THE FOLLOWING IS ADDED AFTER THE SECOND PARAGRAPH:

Concrete test specimens which are to be used for determination of early strengths for form removal, opening to traffic, or otherwise placing the concrete into service shall be cured according to the field curing provisions in AASHTO T-23.

E. Acceptance Testing for Strength for Pay-Adjustment Items.
THE ENTIRE TEXT OF THIS SUBPART IS CHANGED TO:

The list of concrete Pay Items, if any, which are subject to pay-adjustment and their base prices may be found in the Special Provisions.

The amount of pay-adjustment in dollars is the product of the Pay Item base price times the lot quantity times the percent pay-adjustment (expressed as a decimal) given by Equation 1 or Equation 2.

Equation 1 and Equation 2:

Quality	Pay-adjustment (Percent)	
PD < 50	PPA = 3.0 - 0.3 PD	Equation 1
PD ≥ 50	PPA = 26.0 - 0.76 PD	Equation 2

Where: PPA = Percent Pay-adjustment
PD = Percent Defective (Estimate of percent of lot below the class design strength by the use of Equation 3 and Subsection 914.05, Table 914-5)

Equation 3:

$$Q = (ALS - CDS) / S$$

Where: Q = Quality index for pay-adjustment computations
ALS = Average lot strength in psi
CDS = Class design strength in psi
S = Standard deviation of the strength test results in psi for the lot as computed by Equation 4

Equation 4:

$$S = \sqrt{\frac{\Sigma(Xi - ALS)^2}{N-1}}$$

Where: Σ = Summation
Xi = Individual test result (average strength of a test cylinder pair)
N = Number of test results for the lot

Note: When only a single test result is available, the standard deviation "S" is assumed to equal 2 Mpa.

For lots having percent defective (PD) levels less than 10 percent, Equation 1 provides positive adjustments to the contract price. For lots having exactly 10 percent defective, there is no adjustment to

the contract price. For lots having greater than 10 percent defective, Equations 1 or 2, as appropriate, subtract progressively larger amounts from the contract price.

If, based on the initial series of tests, the lot quality of a pay-adjustment item is estimated to be PD = 50 or greater, or if any individual test value (average of a cylinder pair) falls below the retest limit for non-pay-adjustment concrete in Subsection 914.05, Table 914-4, the Engineer has the option to reevaluate by coring or other suitable means. When this provision is applied to Class P concrete, each beam or pile in the steam bed will be evaluated separately.

If the Department elects not to core, the Contractor may accept the pay-adjustment of (PPA) calculated by Equation 2 or, when approved by the Engineer, may take cores according to Subsection 914.05, Table 914-4 at no cost to the Department. The Contractor must take the cores within 60 days from notification of the option to core. As an aid in making this decision, the Contractor will be permitted to perform nondestructive testing using a method or device approved by the Engineer.

When re-evaluation is accomplished by a method other than coring, the results will be used only to determine what further action is to be taken. If any of the non-core tests results are below the class design strength, the Engineer has the option to core. If this option is waived, the Contractor may elect to core, at no cost to the State and within 60 days after being presented with this option, or to accept the pay-adjustment computed from the initial test cylinder results. If the Contractor elects to core, the coring shall be performed as directed and the Department will test the cores. If none of the non-core test results is below the class design strength, the Engineer may elect either to core or to accept the lot at 100 percent payment.

If, based on the core results, the lot is determined to be at a quality level of PD < 75, the pay-adjustment shall be computed by Equation 1 or Equation 2, as appropriate. If the lot is confirmed to be at a quality level of PD = 75 or greater, the lot is considered to be rejectable and the Engineer may:

1. Require the Contractor to remove and replace the defective lot at no cost to the State,
2. Allow the Contractor to leave the defective lot in place and receive a percent pay-adjustment (PPA) computed by Equation 2, or
3. Allow the Contractor to submit a plan, for approval, for corrective action to be performed at no cost to the State. If the plan for corrective action is not approved, either option 1 or 2 above may be applied.

F. **Acceptance Testing for Strength for Non-Pay-Adjustment Items.**

THE ENTIRE TEXT OF THIS SUBPART IS CHANGED TO:

All concrete items not specifically designated as pay-adjustment items as described in Subsection 914.02, Subpart E are considered to be non-pay-adjustment items, but may be accepted by pay-adjustment under certain circumstances. Such an item is eligible for 100 percent payment (PA = 0) provided the retest limit of Subsection 914.05, Table 914-4 is met. If this requirement is not met, the item will be treated as a pay-adjustment item according to Subsection 914.02, Subpart E, and all pay-adjustment provisions shall apply except that the item bid price will be used instead of an item base price in the computation of the pay-adjustment.

When a pay-adjustment is computed for any of the following items, which are only partially composed of concrete, the amount of pay-adjustment, if any, will be multiplied by the Estimated Percentage of Concrete (expressed as a decimal) as indicated below:

Pay Item of Concrete	**Estimated Percentage**
INLETS, TYPE, ___	30
INLETS, TYPE, ___ USING EXISTING CASTING	30
INLETS, TYPE, B-___	40
INLETS, TYPE, B-____, USING EXISTING CASTING	40
INLETS, TYPE, ____ MODIFIED	40
INLETS, TYPE, ____ MODIFIED, USING EXISTING CASTING	40
INLETS, TYPE, ES	50
INLET CASTINGS, TYPE, ES	40
MANHOLES	30
MANHOLES, ____ MM DIAMETER	30
MANHOLES, USING EXISTING CASTING	30

MANHOLES, SANITARY SEWER	30
MANHOLES, SANITARY SEWER, USING EXISTING CASTING	30
GRANITE CURB	25
RESET GRANITE CURB	25
BEAM GUIDE RAIL ANCHORAGES	25
CHAIN-LINK FENCE, ____ M HIGH	25
CHAIN-LINK FENCE, ALUMINUM-COATED STEEL, ____M HIGH	25
CHAIN-LINK FENCE, PVC-COATED STEEL, ____M HIGH	25
CHAIN-LINK FARM-TYPE FENCE	25
GATES, CHAIN-LINK FENCE, ____ M WIDE	25
GATES, CHAIN-LINK FENCE, ALUMINUM-COATED STEEL, ____ M WIDE	25
GATES, CHAIN-LINK FENCE, PVC-COATED STEEL, ____ M WIDE	25
GATES, CHAIN-LINK FARM-TYPE FENCE, ____ M WIDE	25
RESET FENCE	25
TEMPORARY CHAIN-LINK FENCE, ____ M HIGH	25
GUIDE SIGNS, TYPE GA, BREAKAWAY SUPPORTS	20
GUIDE SIGNS, TYPE GA, NON-BREAKAWAY SUPPORTS	20

The amount of pay-adjustment for pay items not listed above is the product of the unit bid price times the lot quantity times the percent pay-adjustment given by Equation 1.

914.04 Sampling and Testing Methods.

THE FOLLOWING AASHTO TEST METHOD IS ADDED:

T303	Standard Test Method for Accelerated Detection of Potentially Deleterious Expansion of Mortar Bars Due to Alkali-Silica Reaction.

914.05 Tables

TABLES 914-1, 914-3, AND 914-4 ARE CHANGED TO:

Table 914-1 Requirements for Roadway Concrete Items

			357	467	57	67	8
Cast-in-Place Items							
Surface Course, Bridge Approach Slabs, Bridge Approach Transition Slabs	B	50±25	5.0±1.5	5.0±1.5	6.0±1.5	6.0±1.5	7.0±1.5
Base Course	B	50±25	5.0±1.5	5.0±1.5	6.0±1.5	6.0±1.5	7.0±1.5
Inlet and Manhole Walls, Headwalls, Miscellaneous Concrete	B	75±25	----	----	6.0±1.5	6.0±1.5	7.0±1.5
Inlet and Manhole Top Slabs, Sidewalks, Driveways, Islands	B	75±25	----	----	6.0±1.5	6.0±1.5	7.0±1.5
Slope Gutters, Vertical Curb, Sloping Curb, Barrier Curb and Base	B	100±25	----	----	6.0±1.5	6.0±1.5	7.0±1.5
Concrete and White Concrete Vertical, Sloping and Barrier Curb, Concrete and White Concrete Islands	B	100±25	----	----	7.0±2.0	7.0±2.0	8.0±2.0
Foundations for:							
Inlets and Manholes	B	75±25	6.5 max	6.5 max	7.5 max	7.5 max	8.5 max
Electrical Items	B	75±25	----	----	7.5 max	7.5 max	8.5 max
Signs	B	75±25	----	----	6.0±1.5	6.0±1.5	7.0±1.5
Junction Boxes	B	75±25	----	----	7.5 max	7.5 max	8.5 max

Table 914-1 (Continued)

	Concrete Class	Slump (mm)	Percent Air Entrainment for Coarse Aggregate Size Numbers				
			357	467	57	67	8
Cast-in-Place Items (continued)							
Footings for Fence Posts, Guide Rail End Treatment	B	75±25	----	----	7.5 max	7.5 max	8.5 max
Culverts	A	75±25	----	----	6.0±1.5	6.0±1.5	7.0±1.5
Monuments	A	75±25	----	----	7.5 max	7.5 max	8.5 max
Slope Protection	B	50±25	----	----	6.0±1.5	6.0±1.5	7.0±1.5
Precast Items							
Culverts	A	75±25	----	----	6.0±1.5	6.0±1.5	7.0±1.5
Inlets and Manholes, Junction Boxes, Headwalls, Reinforced Concrete End Sections (See note 2)	B	75±25	----	----	6.0±1.5	6.0±1.5	7.0±1.5
Concrete and White Concrete Barrier Curb	B	75±25	----	----	7.0±2.0	7.0±2.0	8.0±2.0

Note 1: According to Subsection 501.03, a Type F water-reducing, high range admixture will be permitted according to Subsection 905.02 and Subsection 914.02, Subparts B and C. When a Type F admixture is used, the table Slump and Air Content values for the given concrete item shall be changed as follows:

Slump: 150 ± 50 millimeters

Air Content: Increase both the target value and tolerance percentages by 0.5.

Note 2: For the items in this category, the slump may be reduced to zero (dry cast) provided that adequate consolidation, acceptable to the Engineer, is achieved.

Table 914-3 Mix Design Requirements

	Class of Concrete					
	A	**B**	**S**	**P**	**P-1**	**P-2**
Class Design Strength (28 days, Mpa Note 3)	32	26	14	38	42	45
Verification Strength (28 days, Mpa Note 3)	37	31	--	42	45	48
Maximum Water/Cement Ratio (Note 2)						
kg/kg	0.443	0.488	0.577	Note 1	Note 1	Note 1
L/bag	19	21	25	Note 1	Note 1	Note 1
Minimum Cement Content						
kg/m3	363	335	391	Note 1	Note 1	Note 1
bags/m3	8.5	7.8	9.2	Note 1	Note 1	Note 1

Note 1: According to PCI Manual, except as indicated in Note 2.

Note 2: The maximum water/cement ratio for all classes of concrete except for Classes P, P-1 and P-2, when a Type F water-reducing, high range admixture is used according to Tables 914-1 and 914-2, shall be reduced by 0.40 kg/kg (17.0 L/bag).

Note 3: All concrete test results shall be recorded to the nearest 0.10 Mpa.

Note 4: To successfully meet the requirements of this specification, the target production strength must be higher than the Class Design Strength by an amount proportional to the Producer's within-lot standard deviation.

Table 914-4 Lot Sizes, Sampling Rates and Retest Limits

	Class of Concrete					
	A	**B**	**S**	**P**	**P-1**	**P-2**
Lot Size (maximum)	One Day's Production			One Day's Production of a Single Steam Bed		
Pay-Adjustment Items						
Initial Sampling Rate	5/Lot	5/Lot	--	5/Lot	5/Lot	5/Lot
Retest Sampling Rate (minimum)	5/Lot	5/Lot	--	5/Unit or Load Test		
Non-Pay-Adjustment Items						
Initial Sampling Rate	3/Lot	2/Lot	1/Lot	3/Lot	3/Lot	3/Lot
Retest Limit (Mpa)	30	25	14	37	41	44
Retest Sampling Rate	5/Lot	5/Lot	5/Lot	5/Lot	5/Lot	5/Lot

Note 1: The lot sizes are maximums and, at the option of the Engineer, any lot may be subdivided into two or more smaller lots. When such a subdivision is made, the specified sampling rate applies to each of the smaller lots.

Note 2: An initial strength test result is defined as the average strength of two 100 by 200 millimeter compression test cylinders, cured for 28 days, and tested in the Department Laboratory except for Classes P, P-1, and P-2 cylinders which may be tested at the fabricator's plant under the supervision of the Engineer.

Note 3: A retest result is defined as the strength of an individual test result obtained by coring or other suitable means. If retest is performed by coring, each retest result is defined as the corresponding nominal core strength divided by 0.85.

Note 4: The specified sampling rates shall apply except that no more than one test per truckload or batch of concrete will be required (except for air and slump tests when retempering). It is expected that each structural component will have a representative sample taken. At the option of the Engineer, nonstructural concrete lots consisting of 15 cubic meters or less may be accepted without strength tests.

Note 5: No lot shall include more than one class of concrete nor include concrete of the same class having different specified levels of slump or air entrainment.

Note 6: For prestressed concrete, if more than one bed is used or if more than 60 cubic meters of concrete are used, the production shall be subdivided as equally as possible into two or more lots.

Note 7: Retest limit for non-pay-adjustment roadway and structural items requiring the use of Class B, white concrete, shall be 21 Mpa.

SECTION 916 - SIGN MATERIALS

916.10 Breakaway Steel "U" Post Sign Supports.

THE FIRST PARAGRAPH IS CHANGED TO:

Steel "U" post shall be either Ribbak Modified-Flanged channel section as manufactured by Marion Steel Co., Marion, OH or the "U" channel section as manufactured by Highway Steel, Inc., Chicago Heights, IL. The breakaway system shall be the Lap Splice System as manufactured by Marion Steel, Inc. for the Ribbak Modified-Flanged channel section and Safety Splice System as manufactured by Highway Steel, Inc. for the "U" Channel Section, except that the steel "U" posts shall be galvanized after fabrication, including punching and drilling holes, in conformance with ASTM A 123.

SECTION 919 - MISCELLANEOUS

919.07 Fly Ash.

THE FIRST PARAGRAPH IS CHANGED TO:

Fly ash for portland cement concrete shall conform to ASTM C 618, Class C or Class F except that the loss on ignition shall not be more than three percent. Fly ash used to control alkali-silica reactivity shall be Class F and shall comply with Supplementary Optional Chemical Requirements of ASTM C 618, Table 2. Before each source of fly ash is approved, certified results of tests conducted by a testing agency shall be submitted to and verified by the Department. Accompanying the certification shall be a statement from the supplier listing the source and type of coal, the methods used to burn, collect, and store the fly ash, and the quality control measures employed.

THE FOLLOWING NEW SUBSECTION IS ADDED:

919.22 Controlled Low Strength Material (CLSM).

CLSM shall conform to the following:

Fine Aggregate	901.12
Chemical Admixtures	905.02
Portland Cement, Type I, II, III	919.11
Water	919.15

CLSM shall consist of a mixture of portland cement, water, fine aggregate and chemical admixtures. Fly ash shall not be permitted in mixes intended for trench backfilling. The CLSM mixture shall be proportioned to provide a backfill

material that is self-compacting and capable of being excavated with hand tools at a later date. CLSM shall be proportioned to produce a 28-day compressive strength of 345 to 1 035 kilopascals. An accelerating admixture shall be used to produce a fast setting flowable mixture as required. The CLSM shall have a permeability of $1.7 \times 10^{-3} \pm 0.2 \times 10^{-3}$ centimeters per second according to ASTM D5084 for backfilling of conduits and piping.

At least 45 days prior to the start of any CLSM placement, trial batches of CLSM shall be prepared of the same materials and proportions proposed for use on the project. Each mix design shall be submitted on portland cement concrete mix design forms furnished by the Department, naming the sources of materials and test data.

Department personnel will be present at the time of verification batching to confirm that the proportions and materials batched are according to the proposed mix designs. At least six 150 X 300 millimeters compression test cylinders shall be prepared for each batch according to ASTM 5971-96 for 28-day strengths except for fast setting mixes, which shall be tested at the specified cure time.

STATE OF NEW JERSEY EQUAL EMPLOYMENT OPPORTUNITY FOR CONTRACTS FUNDED BY WHOLLY STATE FUNDS

The provisions of N.J.S.A. 10:2-1 through 10:2-4 and N.J.S.A. 10:5-31 et seq (P.L. 1975, c. 127, as amended and supplemented) dealing with discrimination in employment on public contracts, and the rules and regulations promulgated pursuant thereunto, are hereby made a part of this contract and are binding upon the Contractor.

Noncompliance by the Contractor with the requirements of the Affirmative Action Program for Equal Employment Opportunity may be cause for delaying or withholding monthly and final payments pending corrective and appropriate measures by the Contractor to the satisfaction of the Department.

During the performance of this contract, the contractor agrees as follows:

a. The contractor or subcontractor, where applicable, will not discriminate against any employee or applicant for employment because of age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation. The contractor will take affirmative action to ensure that such applicants are recruited and employed, and that employees are treated during employment, without regard to their age, race, creed, color, national origin, ancestry, marital status or sex. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Public Agency Compliance Officer setting forth provisions of this nondiscrimination clause;

b. The contractor or subcontractor, where applicable will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard to age, race, creed, color, national origin, ancestry, marital status, sex, affectional or sexual orientation;

c. The contractor or subcontractor, where applicable, will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice, to be provided by the agency contracting officer advising the labor union or workers' representative of the contractor's commitments under this act and shall post copies of the notice in conspicuous places available to employees and applicants for employment.

d. The contractor or subcontractor, where applicable, agrees to comply with any regulations promulgated by the Treasurer pursuant to P.L. 1975, c.127, as amended and supplemented from time to time.

e. When hiring workers in each construction trade, the contractor or subcontractor agrees to attempt in good faith to employ minority and female workers in each construction trade consistent with the applicable employment goal prescribed by N.J.A.C. 17:27-7.3; provided,

however, that the Affirmative Action Office may, in its discretion, exempt a contractor or subcontractor from compliance with the good faith procedures prescribed by the following provisions, A, B, and C, as long as the Affirmative Action Office is satisfied that the contractor is employing workers provided by a union which provides evidence, according to standards prescribed by the Affirmative Action Office, that its percentage of active "card carrying" members who are minority and female workers is equal to or greater than the applicable employment goal prescribed by N.J.A.C. 17:27-7.3, promulgated by the Treasurer pursuant to P.L. 1975, c. 127, as amended and supplemented from time to time. The contractor or subcontractor agrees that a good faith effort shall include compliance with the following procedures:

(A) If the contractor or subcontractor has a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor shall, within three days of the contract award, seek assurances from the union that it will cooperate with the contractor or subcontractor as it fulfills its affirmative action obligations under this contract and according to the rules promulgated by the Treasurer pursuant to P.L. 1975, c.127, as supplemented and amended from time to time. If the contractor or subcontractor is unable to obtain said assurances from the construction trade union at least five days prior to the commencement of construction work, the contractor or subcontractor agrees directly to attempt to hire minority and female workers consistent with the applicable employment goal. If the contractor's or subcontractor's prior experience with a construction trade union, regardless of whether the union has provided said assurances, indicates a significant possibility that the trade union will not refer sufficient minority and female workers consistent with the applicable employment goal, the contractor or subcontractor agrees to be prepared to hire minority and female workers directly, consistent with the applicable employment goal, by complying with the hiring procedures prescribed under (B) below; and the contractor or subcontractor further agrees to immediately take said action if it determines or is so notified by the Affirmative Action Office that the union is not referring minority and female workers consistent with the applicable employment goal.

(B) If the hiring of a workforce consistent with the employment goal has not or cannot be achieved for each construction trade by adhering to the procedures of (b) above, or if the contractor does not have a referral agreement or arrangement with a union for a construction trade, the contractor or subcontractor agrees to take the following actions consistent with the applicable county employment goals:

(1) To notify the Public Agency Compliance Officer, Affirmative Action Office, and at least one approved minority referral organization of its manpower needs, and request referral of minority and female workers;

(2) To notify any minority and female workers who have been listed with it as awaiting available vacancies;

(3) Prior to commencement of work, to request the local construction trade union, if the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade, to refer minority and female workers to fill job openings;

(4) To leave standing requests for additional referral to minority and female workers with the local construction trade union, if the contractor or subcontractor has a referral agreement or arrangement with a union for the construction trade, the State Training and Employment Service and other approved referral sources in the area until such time as the workforce is consistent with the employment goal;

(5) If it is necessary to lay off some of the workers in a given trade on the construction site, to assure, consistent with the applicable State and Federal statutes and court decisions, that sufficient minority and female employees remain on the site consistent with the employment goal; and to employ any minority and female workers so laid off by the contractor on any other construction site in the area on which its workforce composition is not consistent with an employment goal established pursuant to rules implementing P.L. 1975, c. 127;

(6) To adhere to the following procedure when minority and female workers apply or are referred to the contractor or subcontractor:

(i) If said individuals have never previously received any document or certification signifying a level of qualification lower than that required, the contractor or subcontractor shall determine the qualifications of such individuals and if the contractor's or subcontractor's workforce in each construction trade is not consistent with the applicable employment goal, it shall employ such persons which satisfy appropriate qualification standards; provided however, that a contractor or subcontractor shall determine that the individual at least possesses the skills and experience recognized by any worker's skills and experience classification determination which may have been made by a Public Agency Compliance Officer, union, apprentice program or a referral agency, provided the referral agency is acceptable to the Affirmative Action Office and provided further, that, if necessary, the contractor or subcontractor shall hire minority and female workers who qualify as trainees pursuant to these regulations. All of the requirements of this paragraph, however, are limited by the provisions of (C) below.

(ii) If the contractor's or subcontractor's workforce is consistent with the applicable employment goal, the name of said female or minority group individual shall be maintained on a waiting list for the first consideration, in the event the contractor's or subcontractor's workforce is no longer consistent with the applicable employment goal.

(iii)If, for any reason, said contractor or subcontractor determines that a minority individual or a female is not qualified or if the individual qualifies as an advanced trainee or apprentice, the contractor or subcontractor shall inform the individual in writing with the reasons for the determination, maintain a copy in its files, and send a copy to the Public Agency Compliance Officer and to the Affirmative Action Office.

(7) To keep a complete and accurate record of all requests made for the referral of workers in any trade covered by the contract and on forms made available by the Affirmative

Action Office and shall be submitted promptly to that office upon request.

(C) The contractor or subcontractor agrees that nothing contained in (B) preceding provision shall preclude the contractor or subcontractor from complying with the hiring hall or apprenticeship provisions in any applicable collective bargaining agreement or hiring hall arrangement, and, where required by custom or agreement, it shall send journeymen and trainees to the union for referral, or to the apprenticeship program for admission, pursuant to such agreement or arrangement: provided, however, that where the practices of a union or apprenticeship program will result in the exclusion of minorities and females or the failure to refer minorities and females consistent with the county employment goal, the contractor or subcontractor shall consider for employment persons referred pursuant to said provisions (B) without regard to such agreement or arrangement; provided further, however, that the contractor or subcontractor shall not be required to employ female and minority advanced trainees and trainees in numbers which result in the employment of advanced trainees and trainees as a percentage of the total workforce for the construction trade, which percentage significantly exceeds the apprentice to journey worker ratio specified in the applicable collective bargaining agreement, or in the absence of a collective bargaining agreement, exceeds the ratio established by practice in the area for said construction trade. Also, the contractor or subcontractor agrees that, in implementing the procedures of the preceding provisions (B) it shall, where applicable, employ minority and female workers residing within the geographical jurisdiction of the union.

(D) The contractor agrees to complete an Initial Project Manning Report on forms provided by the Affirmative Action Office or in the form prescribed by the public agency and submit a copy of said form no later than 3 days after signing a construction contract; provided, however, that the public agency may extend in a particular case the allowable time for submitting the form to no more than 14 days; and to submit a copy of the Monthly Project Manning Report once a month (by the seventh work day of each month) thereafter for the duration of this contract to the Affirmative Action Office and to the Public Agency Compliance Officer. The contractor agrees to cooperate with the public agency in the payment of budgeted funds, as is necessary, for on-the-job and off-the-job programs for outreach and training of minority and female trainees employed on the construction projects.

(E) The contractor and its subcontractors shall furnish such reports or other documents to the Affirmative Action Office as may be requested by the office from time to time in order to carry out the purposes of these regulations, and public agencies shall furnish such information as may be requested by the Affirmative Action Office for conducting a compliance investigation pursuant to Subchapter 10 of the Administrative Code (NJAC 17:27).

December 1986
Revised September 1992

PAYROLL REQUIREMENTS FOR 100% STATE PROJECTS

1. Each contractor and subcontractor shall furnish the Resident Engineer with payroll reports for each week of contract work. Such reports shall be submitted within 7 days of the date of payment covered thereby and shall contain the following information:

   A. Each employee's full name, address, and social security number. The employee's full name, and social security number need only appear on the first payroll on which his name appears. The employee's address need only be shown on the first submitted payroll on which his name appears; unless a change of address necessitates a submittal to reflect the new address.

   B. Each employee's specific work classification (s).

   C. Entries indicating each employee's basis hourly wage rate(s) and, where applicable, the overtime hourly wage rate(s). Any fringe benefits paid to the employee in cash must be indicated.

   D. Each employee's daily and weekly hours worked in each classification, including actual overtime hours worked (not adjusted).

   E. Each employee's gross wage.

   F. The itemized deductions made.

   G. The net wages paid.

2. Each contractor or subcontractor shall furnish a statement each week to the Resident Engineer with respect to the wages paid each of its employees engaged in contract work covered by the New Jersey Prevailing Wage Act during the preceding weekly payroll period. The statement shall be executed by the contractor or subcontractor or by an authorized officer or employee of the contractor or subcontractors who supervises the payment of wages. Contractors and subcontractors must use the certification set forth on New Jersey Department of Transportation Form FA-7 "Statement of Compliance," or the same certification set forth on (1) U.S. Department of Labor Form WH-348, (2) the reverse side of U. S. Department of Labor Form WH-347, or (3) any form with identical wording.

AMERICANS WITH DISABILITIES ACT

100% STATE FUNDED CONTRACTS

Equal Opportunity For Individuals With Disabilities.

The CONTRACTOR and the STATE do hereby agree that the provisions of Title II of the American With Disabilities Act of 1990 (the "ACT") (42 U.S.C. Section 12101 et seq.), which prohibits discrimination on the basis of disability by public entities in all services, programs, and activities provided or made available by public entities, and the rules and regulations promulgated pursuant thereunto, are made a part of this contract. In providing any aid, benefit, or service on behalf of the STATE pursuant to this contract, the CONTRACTOR, agrees that the performance shall be in strict compliance with the Act. In the event that the CONTRACTOR, its agents, servants, employees, or subcontractors violate or are alleged to have violated the Act during the performance of this contract, the CONTRACTOR shall defend the STATE in any action or administrative proceeding commenced pursuant to this Act. The CONTRACTOR shall indemnify, protect, and save harmless the STATE, its agents, servants, and employees from and against any and all suits, claims, losses, demands, or damages of whatever kind or nature arising out of or claimed to arise out of the alleged violation. The CONTRACTOR shall, at its own expense, appear, defend, and pay any and all charges for legal services and all costs and other expenses arising from such action or administrative proceeding or incurred in connection therewith. In any and all complaints brought pursuant to the STATE'S grievance procedure, the CONTRACTOR agrees to abide by any decision of the STATE which is rendered pursuant to said grievance procedure. If any action or administrative proceeding results in an award of damages against the STATE or if the STATE incurs any expense to cure a violation of the ADA which has been brought pursuant to its grievance procedure, the CONTRACTOR shall satisfy and discharge the same at its own expense.

The STATE shall, as soon as practicable after a claim has been made against it, give written notice thereof to the CONTRACTOR along with full and complete particulars of the claim. If any action or administrative proceeding is brought against the STATE or any of its agents, servants, and employees, the STATE shall expeditiously forward or have forwarded to the CONTRACTOR every demand, complaint, notice, summons, pleading, or other process received by the STATE or is representatives.

It is expressly agreed and understood that any approval by the STATE of the services provided by the CONTRACTOR pursuant to this contract will not relieve the CONTRACTOR of the obligation to comply with the Act and to defend, indemnify, protect, and save harmless the STATE pursuant to this paragraph.

It is further agreed and understood that the STATE assumes no obligation to indemnify or save harmless the CONTRACTOR, its agents, servants, employees and subcontractors for any claim which may arise out of their performance of this Agreement. Furthermore, the CONTRACTOR expressly understands and agrees that the provisions of this indemnification clause shall in no way limit the CONTRACTOR'S obligations assumed in this Agreement, nor shall they be construed to relieve the CONTRACTOR from any liability, nor preclude the STATE from taking any other actions available to it under any other provisions of this Agreement or otherwise at law.

EQUAL EMPLOYMENT OPPORTUNITY SPECIAL PROVISIONS CONSTRUCTION CONTRACTS FUNDED BY WHOLLY STATE FUNDS

I. GENERAL

The Contractor is required to implement and maintain a specific Affirmative Action Compliance Program of Equal Employment Opportunity in support of the New Jersey "Law Against Discrimination", P.L. 1975, c. 127, N.J.S.A. 10:5-31, and according to the Affirmative Action Regulations set forth at N.J.A.C. 17:27-1.1 et seq.

Noncompliance by the Contractor with the requirements of the Affirmative Action program for Equal Employment Opportunity may be cause for delaying or withholding monthly and final payments pending corrective and appropriate measures by the Contractor to the satisfaction of the Department.

The Contractor will cooperate with the state agencies in carrying out its Equal Employment Opportunity obligations and in their review of its activities under the contract.

The Contractor and all its subcontractors, not including material suppliers, holding subcontracts of $2,500 or more, will comply with the following minimum specific requirement activities of Equal Opportunity and Affirmative Action set forth in these special provisions. The Contractor will include these requirements in every subcontract of $2,500 or more with such modification of language in the provisions of such contracts as is necessary to make them binding on the subcontractor.

II. EQUAL EMPLOYMENT OPPORTUNITY POLICY

The Contractor agrees that it will accept and implement during the performance of this contract as its operating policy the following statement which is designed to further the provision of Equal Employment Opportunity to all persons without regard to their race, color, religion, sex, age, creed, ancestry, marital status, or national origin, and to promote the full realization of Equal Employment Opportunity through a positive continuing program:

It is the policy of this company that it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age, creed, ancestry, martial status or national origin and that it will take Affirmative Action to ensure that applicants are recruited and employed and that employees are treated during employment without regard to their race, color, religion, sex, age, creed, ancestry, marital status, or national origin. Such action shall include, but not be limited to, the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, pre apprenticeship, and/or on-the-job training.

III. EQUAL EMPLOYMENT OPPORTUNITY OFFICER

The Contractor will designate and make known to the Department contracting officers an Equal Employment Opportunity Officer (hereinafter referred to as the EEO Officer) who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of Equal Employment Opportunity and who must be assigned adequate authority and responsibility to do so.

IV. DISSEMINATION OF POLICY

A. All members of the Contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, will be made fully cognizant of, and will implement, the Contractor's Equal Employment Opportunity Policy and contractual responsibilities to provide Equal Employment Opportunity in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:

1. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every 6 months, at which time the Contractor's Equal Employment Opportunity Policy and its implementation will be reviewed and explained. The EEO Officer or other knowledgeable company official will conduct the meetings.

2. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer or other knowledgeable company official covering all major aspects of the Contractor's Equal Employment Opportunity obligations within 30 days following their reporting for duty with the Contractor.

3. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer or appropriate company official in the Contractor's Procedures for locating and hiring minority group employees.

B. In order to make the Contractor's Equal Employment Opportunity Policy known to all employees, prospective employees and potential sources of employees, i.e., schools, employment agencies, labor unions (where appropriate), college placement officers, etc., the Contractor will take the following actions:

1. Notices and posters setting forth in the Contractor's Equal Employment Opportunity policy, as set forth in Section 2 of these Equal Employment Opportunity Special Provisions will be placed in conspicuous places readily accessible to employees, applicants for employment and potential employees.

2. The Contractor's Equal Employment Opportunity Policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.

V. RECRUITMENT

A. In all solicitations and advertisements for employees placed by or on behalf of the Contractor, the Contractor will state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age, creed, ancestry, martial status or national origin. All such advertisements will be published in newspapers or other publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

B. The Contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants, including, but not limited to, state employment agencies, schools, colleges and minority group organizations. To meet this requirement, the Contractor will, through his EEO Officer, identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the Contractor for employment consideration.

C. In the event the Contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the Contractor's compliance with Equal Employment Opportunity contract provisions. (The US Department of Labor has held that where implementations of such agreements have the effect of discriminating against minorities or women, or obligates the Contractor to do the same; such implementation violates Executive Order 11246, as amended).

D. In the event that the process of referrals established by such a bargaining agreement fails to provide the Contractor with a sufficient number of minority referrals within the time period set forth in such an agreement, the Contractor shall comply with the provisions of "Section 9 Unions" of the EEO Special Provisions.

VI. ESTABLISHMENT OF GOALS FOR CONSTRUCTION CONTRACTORS

A. The New Jersey Department of Transportation has established, pursuant to N.J.A.C. 17:27-7.3, the minority and female goals for each construction contractor and subcontractor based on availability statistics as reported by the New Jersey Department of Labor, Division of Planning and Research, in its report, EEO Tabulation - Detailed Occupations as follows:

MINORITY AND FEMALE EMPLOYMENT GOAL OBLIGATIONS FOR CONSTRUCTION CONTRACTORS AND SUBCONTRACTORS

COUNTY	MINORITY % PERCENTAGE	FEMALE% PERCENTAGE
Atlantic	20	6.9
Bergen	10	6.9
Burlington	16	6.9
Camden	16	6.9
Cape May	8	6.9
Cumberland	21	6.9
Essex	42	6.9
Gloucester	10	6.9
Hudson	38	6.9
Hunterdon	5	6.9
Mercer	19	6.9
Middlesex	16	6.9
Monmouth	11	6.9
Morris	7	6.9
Ocean	6	6.9
Passaic	24	6.9
Salem	15	6.9
Somerset	8	6.9
Sussex	5	6.9
Union	24	6.9
Warren	5	6.9

The Affirmative Action Office has interpreted Section 7.3 of the State of New Jersey Affirmative Action Regulations as applicable to work hour goals for minority and female participation.

If a project is located in more than one county, the minority work hour goal will be determined by the county which serves as the primary source of hiring or, if workers are obtained equally from one or more counties, the single minority goal shall be the average of the individual goal for the affected counties.

B. The State Affirmative Action office may designate a regional goal for minority membership for a union that has regional jurisdiction. No regional goals shall apply to this project unless specifically designated elsewhere herein.

C. When hiring workers in the construction trade, the Contractor and/or subcontractor agree to attempt, in good faith, to employ minority workers in each construction trade, consistent with the applicable county or, in special cases, regional goals.

D. It is understood that the goals are not quotas. If the Contractor or subcontractor

has attempted, in good faith, to satisfy the applicable goals, he will have complied with his obligations under these EEO Special Provisions. It is further understood that if the Contractor shall fail to attain the goals applicable to this project, it will be the Contractor's obligation to establish to the satisfaction of the Department of Transportation that it has made a good faith effort to satisfy such goals. The Contractor or subcontractor agrees that a good faith effort to achieve the goals set forth in these special provisions shall include compliance with the following procedures:

1. Requests shall be made by the Contractor or subcontractor to each union or collective bargaining unit with which the Contractor or subcontractor has a referral agreement or arrangement for the referral of minority workers to fill job openings. Requests shall also be made for assurances for the referral of minority workers to fill job openings. Requests shall also be made for assurances from such unions or collective bargaining units that they will cooperate with the Contractor or subcontractor in fulfilling the Affirmative Action obligations of the Contractor or subcontractor under this contract. Such requests shall be made prior to the commencement of construction under the contract.

2. The contractor and its subcontractors shall comply with Section 9, Unions of these EEO Special Provisions and, in particular, with Section 9, Paragraph D, if the referral process established in any collective bargaining arrangement is failing to provide the Contractor or subcontractor with a sufficient number of minority referrals.

3. The Contractor and its subcontractors shall notify the Department's Compliance Officer, the Affirmative Action Office of the Department of Treasury and at least one approved minority referral organization of the Contractor's or subcontractors manpower needs and of the Contractor's or subcontractor's desire for assistance in attaining the goals set forth herein. The notifications should include a request for referral of minority and female workers.

4. The Contractor and its subcontractors shall notify the Department's Compliance Officer and the Affirmative Action Office of the Department of Treasury in the event that a union or collective bargaining unit is not making sufficient minority referrals to enable the Contractor or subcontractor to attain the work goals for the Project.

5. The Contractor and its subcontractors shall make standing requests to all local construction unions, the state training and employment service and other approved referral sources for additional referrals of minority and female workers until such time as the project work force is consistent with the work hour goals for the project.

6. The Contractor and its subcontractors shall make standing requests to all local construction unions, the state training and employment service and

other approved referral sources for additional referrals of minority and female workers until such time as the project work force is consistent with the work hour goals for the project.

7. In the event that it is necessary to lay off some of the workers in a given trade on the construction site, the Contractor and its subcontractors shall ensure that fair layoff practices are followed regarding minority, female and other workers.

8. The Contractor and its subcontractors shall comply with the other requirements of these EEO Special Provisions.

VII. PERSONNEL ACTIONS

Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, age, creed, ancestry, marital status or national origin. The following procedures shall be followed:

A. The Contractor will conduct periodic inspections of project sites to ensure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.

B. The Contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.

C. The Contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the Contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.

D. The Contractor will promptly investigate all complaints of alleged discrimination made to the Contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the Contractor will inform every complainant of all of his avenues of appeal.

VIII. TRAINING AND PROMOTION

The Contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.

Consistent with the Contractor's work force requirements and as permissible under State regulations, the Contractor shall make full use of training programs, i.e.,

apprenticeship, and on-the-job training programs, for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training.

The Contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.

The Contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.

IX. UNIONS

If the Contractor relies in whole or in part upon unions as a source of employees, the Contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the Contractor either directly or through a Contractor's association acting, as agent will include the procedures set forth below:

A. The Contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice advising the labor union or workers' representative of the Contractor's commitments under both the law against discrimination and this contract and shall post copies of the notice in conspicuous places readily accessible to employees and applicants for employment. Further, the notice will request assurance from the union or worker's representative that such union or worker's representative will cooperate with the Contractor in complying with the Contractor's Equal Employment Opportunity and Affirmative Action obligations.

B. The Contractor will use their best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.

C. The Contractor will use their best efforts to incorporate an Equal Employment Opportunity clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, or national origin.

D. The Contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the Contractor, the Contractor shall so certify to the Department and shall set forth what efforts have been made to obtain such information.

E. In the event the union is unable to provide the Contractor with a reasonable flow

of minority and women referrals within the time limit set forth in the collective bargaining agreement, the Contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, or national origin, making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The US Department of Labor has held that it shall be no excuse that the union with which the Contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees). In the event the union referral practice prevents the Contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these Special Provisions, such Contractor shall immediately notify the Department.

X. SUBCONTRACTING

A. The Contractor will use his best efforts to solicit bids from and to utilize minority group and female subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors may use lists of minority owned and female owned construction firms as issued by the Department.

B. The Contractor will use his best efforts to ensure subcontractor compliance with their Equal Employment Opportunity obligations.

XI. RECORDS AND REPORTS

A. The Contactor will keep such records as are necessary to determine compliance with the Contractor's Equal Employment Opportunity obligations. The records kept by the Contractor will be designed to indicate:

1. The work hours of minority and non-minority group members and women employed in each work classification on the project.

2. The progress and efforts being made in cooperation with unions to increase employment opportunities for minorities and women (applicable only to Contractors who rely in whole or in part on unions as a source of their work force).

3. The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees, and

4. The progress and efforts being made in securing the services of minority group and female subcontractors or subcontractors with meaningful minority and female representation among their employees.

B. All such records must be retained for a period of 3 years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the Department.

C. The Contractor shall submit monthly reports to the Department after construction begins for the duration of the project, indicating the work hours of minority, women, and non minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on a form supplied by the Department.

XII. SPECIAL CONTRACT PROVISIONS FOR INVESTIGATING, REPORTING AND RESOLVING EMPLOYMENT DISCRIMINATION AND SEXUAL HARASSMENT COMPLAINTS

The Contractor hereby agrees to the following requirements in order to implement fully the nondiscrimination provisions of the Supplemental Specifications:

The Contractor agrees that in instances when it receives from any person working on the project site a verbal or written complaint of employment discrimination, prohibited under N.J.S.A. 10:5-1 et seq. 10:2-1 et seq., 42 U.S.C. 2000 (d) et seq., 42 U.S.C. 2000(e) et seq. And Executive Order 11246, it shall take the following actions:

1. Within one (1) working day commence an investigation of the complaint, which will include but not be limited to interviewing the complaint, the respondent, and all possible witnesses to the alleged act or acts of discrimination or sexual harassment.

2. Prepare and keep for its use and file a detailed written investigation report which includes the following information:

   a) Investigatory activities and findings.

   b) Dates and parties involved and activities involved in resolving the complaint.

   c) Resolution and corrective action taken if discrimination or sexual harassment is found to have taken place.

   d) A signed copy of resolution of complaint by complainant and contractor.

   In addition to keeping in its files the above-noted detailed written investigative report, the contractor shall keep for possible future review by the Department all other records, including, but not limited to, interview memos and statements.

3. Upon the request of the Department provides to the Department within ten (10) calendar days a copy of its detailed written investigative report and all other records on the complaint investigation and resolution.

4. Take appropriate disciplinary actions against any contractor employee, official or agent who has committed acts of discrimination or sexual harassment against any

contractor employee or person working on the project. If the person committing the discrimination is a subcontractor employee, then the contractor is required to attempt to effectuate corrective and/or disciplinary action by the subcontractor in order to establish compliance with project's contract requirements.

5. Take appropriate disciplinary action against any contractor employee, official or agent who retaliates, coerces or intimidates any complainant and/or person who provides information or assistance to any instigation of complaints of discrimination or sexual harassment. If the person retaliating, coercing or intimidating a complainant or other person assisting in an investigation is a subcontractor's employee, then the contractor is required to attempt to effectuate corrective and/or disciplinary action taken by the subcontractor in order to establish compliance with the project's contract requirements.

6. Ensure to the maximum extent possible that the privacy interests of all persons who give confidential information in aid of the contractor's employment discrimination investigation are protected.

7. In conjunction with the above requirements, the contractor herein agrees to develop and post a written sexual harassment policy for its workforce.

The contractor also agrees that its failure to comply with the above requirements may be cause for the New Jersey Department of Transportation to institute against the contractor any and all enforcement proceedings and/or sanctions authorized by the contract or by state and/or federal law.

September 7,1999

MINORITY/FEMALE OUTREACH AND TRAINING PROGRAM FOR WHOLLY STATE FUNDED PROJECTS

I. A pay item entitled "Training Reimbursement" paid lump sum has been added to this contract in conformance with PL 1975, c. 127, and applicable regulations and policies. The pay item reflects the fact that one-half of one percent of the total project cost of each state-funded contract of $1,000,000 or more must be available for the provision of on-the-job/off-the-job training for eligible trainees.
The lump sum amount will be used to reimburse the contractor for on-the-job/off-the-job training costs incurred during the life of the contract, provided that:

A) The training is required because of the contractor's failure to meet the contract's minority and female hiring goals.

B) Only minority and/or female trainees actually employed on the project are provided with training.

C) Training funds are not used to pay the salary of any trainee.

D) Off-the-job training programs are designed to increase the skills of trainees in a particular trade or craft or skills relating to contracting work or related academic or remedial education programs.

E) Training is provided by the State, regional or local public or private training institutions, agencies or organizations that have been approved by the Department of Treasury's Affirmative Action Office.

II. The contractor is responsible for arranging the training at a site or sites approved, in advance, by the Department. Payment for such training is contingent on the contractor=s satisfaction of each of the following conditions:

A) The contractor must establish, to the satisfaction of the Department, that it has made a good faith effort necessary to ensure compliance with the contract's minority/female hiring goals.

B) The contractor must submit to the Department a list of minority and/or female employees to be included in the training.

C) The contractor must submit to the Department a written description of the training program it proposes to utilize during the course of the project and has received approval of this program. The proposed program must have received Department approval prior to the commencement of any training for which reimbursement will be sought.

D) The contractor must submit, on a monthly basis, documentation of the training provided and of the costs incurred. The documentation shall include applications, invoices, billings and other pertinent materials provided by an approved training agency.

E) The contractor must maintain all records of applications, invoices, billings, accounting and other documentation of costs incurred and shall make such records available at its offices for audit by the Department at all reasonable times during the contract period and for three years from the date of final payment.

ASBESTOS

ABATEMENT

SPECIFICATIONS

Rt. 9/524 Pages 1 thru 27

SECTION 02082

ENVIRONMENTAL HAZARDS ABATEMENT

PART 1

1 - GENERAL

A. The scope of work will require all asbestos containing materials to be abated in the identified building. The following table is a general reference list of ACM identified in the building. This general reference list is not all-inclusive. The intent of this list and abatement work is to remove the asbestos from an area and make the area "asbestos-free".

Office/Cashier Building Route 9 & 524, Freehold, NJ			
ACM	**Location**	**Approximate Quantity**	**Percent Asbestos**
Tar roofing	Roof	198 sq. ft.	1.4% Chrysotile

B. L. Robert Kimball and Associates, Inc. (Kimball) is New Jersey Department of Transportation Consultant for this project. The Contractor shall notify Kimball prior to commencement of any work. Point of contact for Kimball is *Daniel Davis* and can be reached at the office (412) 262-5400, cell phone (412) 327-3320, faxed at (412) 262-3036 or e-mailed at davisd@lrkimball.com.

1.1 REFERENCES

A. The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

B. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

1. ANSI Z9.2 (1979; R 1991) Fundamentals Governing the Design and Operation of Local Exhaust Systems

2. ANSI Z88.2 (1992) Respiratory Protection
American Society For Testing And Materials (ASTM)

3.	ASTM C 732	(1982; R 1987) Aging Effects of Artificial Weathering on Latex Sealants
4.	ASTM D 522	(1993; Rev. A) Mandrel Bend Test of Attached Organic Coatings
5.	ASTM D 1331	(1989) Surface and Interfacial Tension of Solutions of Surface-Active Agents
6.	ASTM D 2794	(1993) Resistance of Organic Coatings to the Effects of Rapid Deformation (Impact)
7.	ASTM E 84	(1994) Surface Burning Characteristics of Building Materials
8.	ASTM E 96	(1994) Water Vapor Transmission of Materials
9.	ASTM E 1368	(1990) Visual Inspection of Asbestos Abatement Projects

C. CODE OF FEDERAL REGULATIONS (CFR)

1.	29 CFR 1910.134	Respiratory Protection
2.	29 CFR 1926.51	Sanitation
3.	29 CFR 1926.200	Accident Prevention Signs and Tags
4.	29 CFR 1926.59	Hazard Communication
5.	29 CFR 1926.451	Scaffolding
6.	29 CFR 1926.1101	Asbestos, Tremolite, Anthophyllite, Actinolite
7.	40 CFR 61-SUBPART A	General Provisions
8.	40 CFR 61-SUBPART M	National Emission Standard for Asbestos
9.	40 CFR 763	Asbestos Containing Material in Schools
10.	49 CFR 171 and 172	DOT regulations for the transportation of asbestos-containing materials

D. ENVIRONMENTAL PROTECTION AGENCY (EPA)

1. EPA 560/5-85-024 Guidance for Controlling Asbestos Containing Materials in Buildings

E. UNDERWRITERS LABORATORIES INC. (UL)

1. UL 586 (1990) High-Efficiency, Particulate, Air Filter Units

F. STATE OF NEW JERSEY

1. Uniform Construction Code Act. (New Jersey S.A. 52-17D-119 et.seq., P.L. 1984)

2. Asbestos Control and Licensing Act. (NJSA 34:5A-32 et.seq., P.L. 1984)

3. Asbestos Hazard Abatement Subcode for Educational Facilities - Subchapter 8. N.J.A.C. 5:23-8 New Jersey Department of Community Affairs Division of Housing and Development Bureau of Construction Code Enforcement CN 816 Trenton, New Jersey 08625-0816.

4. Asbestos Licenses and Permits N.J.A.C. 12:120-1,2,3,5,7 and 8:60-1,2,3,4,5,7 New Jersey Department of Labor Division of Workplace Standards CN 504 Trenton, New Jersey 08625-0504.

5. Asbestos Training Courses N.J.A.C. 8:60-2 and 6, 12:120-2 and 6 New Jersey Department of Health Asbestos Control Project, Training Unit CN 360 Trenton, NJ 08625-0360

6. Solid Waste Management Act. (NJSA 13:1E-1, 13:109, et.seq., as amended)

7. Disposal Regulations N.J.A.C. 7:26 New Jersey Department of Environmental Protection, Division of Waste Management, Bureau of Field Operations CN 028 Trenton, NJ 08625-0805.

8. Control and Prohibition of Air Pollution by Toxic Substances, New Jersey Department of Environmental Protection, N.J.A.C. Title 7, Chapter 27, Subchapter 17, effective date: December 17, 1979.

9. Asbestos Subchapter of the New Jersey Safety and Health Standards for Public Employees, N.J.A.C. 12:100 et.seq.

1.2 DEFINITIONS

A. ACM

1. Asbestos Containing Materials. Any material or product which contains more than one (1) percent asbestos.

B. Aggressive Air Sampling Techniques

1. Air monitoring samples collected while leaf blowers, fans, or other such devices are used to generate air turbulence within the work area.

C. Amended Water

1. Water containing a wetting agent or surfactant with a maximum surface tension of 2.9 Pa (29 dynes per square centimeter) when tested in accordance with ASTM D 1331.

D. Area Sampling

1. Sampling of asbestos fiber concentrations which approximates the concentrations of asbestos in the theoretical breathing zone but is not actually collected in the breathing zone of an employee.

E. Asbestos

1. The term asbestos includes Chrysotile, amosite, crocidolite, tremolite asbestos, anthophyllite asbestos, and actinolite asbestos and any of these minerals that has been chemically treated or altered. Materials are considered to contain asbestos if the asbestos content of the material is determined to be at least one percent.

F. Asbestos Control Area

1. That area where asbestos removal operations are performed which is isolated by physical boundaries, which assist in the prevention of the uncontrolled release of asbestos dust, fibers, or debris.

G. Asbestos Fibers

1. Those fibers having an aspect ratio of at least 3:1 and longer than 5 micrometers as determined by National Institute for Occupational Safety and Health (NIOSH) Method 7400.

H. Asbestos Permissible Exposure Limit (PEL)

1. 0.1 fibers per cubic centimeter of air as an 8-hour time weighted average measured in the breathing zone as defined by 29 CFR 1926.1101 or other

Federal legislation having legal jurisdiction for the protection of workers health.

I. **Authority**

1. New Jersey Department of Transportation.

J. Background

1. The ambient airborne asbestos concentration in an uncontaminated area as measured prior to any asbestos hazard abatement efforts. Background concentrations for other (contaminated) areas are measured in similar but asbestos free locations.

K. Contractor

1. The Contractor is that individual, or entity under contract to the Authority to perform the herein listed work.

L. Encapsulation

1. The abatement of an asbestos hazard through the appropriate use of chemical encapsulants.

M. Encapsulants

1. Specific materials in various forms used to chemically or physically entrap asbestos fibers in various configurations to prevent these fibers from becoming airborne. There are four types of encapsulants as follows which must comply with performance requirements as specified herein.

   a. Removal Encapsulant (can be used as a wetting agent)

   b. Bridging Encapsulant (used to provide a tough, durable surface coating to asbestos containing material)

   c. Penetrating Encapsulant (used to penetrate the asbestos containing material encapsulating all asbestos fibers and preventing fiber release due to routine mechanical damage)

   d. Lock-Down Encapsulant (used to seal off or "lock-down" minute asbestos fibers left on surfaces from which asbestos containing material has been removed).

N. Friable Asbestos Material

1. Any material greater than one percent asbestos that, when dry, can be crumbled, pulverized, or reduced to powder by hand pressure when dry.

O. HEPA Filter Equipment

1. High efficiency particulate air (HEPA) filtered vacuum and/or exhaust ventilation equipment with a filter system capable of collecting and retaining asbestos fibers. Filters shall retain 99.97 percent of particles 0.3 microns or larger as indicated in UL 586.

P. Negative Pressure Enclosure (NPE)

1. That engineering control technique described as a negative pressure enclosure in 29 CFR 1926.1101.

Q. Non-friable Asbestos Material

1. Any material that contains more than one percent asbestos in which the fibers have been immobilized by a bonding agent, coating, binder, or other material so that the asbestos is well bound and will not normally release asbestos fibers during any appropriate use, handling, storage or transportation. Non-friable materials are defined as either:

a. Category I - means asbestos containing packing, gaskets, resilient floor coverings and asphalt roofing products.

b. Category II - any material, excluding Category I non-friable ACM, containing more than one percent asbestos such as transite, galbestos and window caulking.

R. Powered Air Purifying Respirator (PAPR)

1. A positive-pressure respirator which employs a portable, rechargeable battery pack and blower to force air from the work area through a HEPA filter cartridge, where the air is cleaned and supplied to the wearer's breathing zone.

S. Personal Sampling

1. Air sampling which is performed to determine asbestos fiber concentrations within the breathing zone of a specific employee, as performed in accordance with 29 CFR 1926.1101.

T. Qualified Person (QP)

1. That qualified person hired by the Contractor to perform the required contractor's tasks, who has successfully completed training and is therefore accredited under a legitimate State Model Accreditation Plan as described in 40 CFR 763 as a Building Inspector, Contractor/Supervisor Abatement Worker, and Asbestos Project Designer; and has successfully completed the National Institute of Occupational Safety and Health (NIOSH) 582 course "Sampling and Evaluating Airborne Asbestos Dust" or equivalent. The QP must be qualified to perform visual inspections as indicated in ASTM E 1368. The QP shall be appropriately licensed in the State of New Jersey.

U. Regulated ACM

1. Friable asbestos containing material, category I non-friable ACM that has become friable, Category I non-friable ACM that will be or has been subject to sanding, grinding, cutting, or abrading, or Category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by the forces expected to act on the material in the course of demolition or renovation operations regulated by NESHAP.

V. Authority's Consultant (AC)

1. That qualified person employed directly by the Authority to monitor, sample, and inspect the work or in some other way advises the Authority. The AC is normally a private consultant hired by the Authority and is L. Robert Kimball and Associates, Inc. (Kimball). Point of contact for Kimball is *Daniel Davis* and can be reached at (412) 262-5400, cell phone (412) 327-3320, or faxed at (412) 262-3036.

W. Time Weighted Average (TWA)

1. The TWA is an 8-hour time weighted average airborne concentration of asbestos fibers.

X. Wetting Agent

1. A chemical added to water to reduce the water's surface tension thereby increasing the water's ability to soak into the material to which it is applied. An equivalent wetting agent must have a surface tension of at most 2.9 Pa (29 dynes per square centimeter) when tested in accordance with ASTM D 1331.

1.3 REQUIREMENTS

A. Special Conditions

1. The Contractor shall be responsible for compliance with any and all OSHA, EPA, and New Jersey regulations as referenced in these Specifications. Furthermore, the Contractor shall at all times conform to any additional requirements set forth in these Specifications where they may be more stringent than the minimum required by regulation. The Authority or AC, and their employees or designated representatives assume no responsibility for the management of or control over the Contractor's safety and health program activities. The Contractor shall ensure that his safety and health programs comply with all applicable regulations and adequately protect the well-being of his employees.

2. The Contractor shall pay all license fees and royalties and assume all cost fees and cost incidents to the use in the performance of the work of any invention, design, process patent, or device which is the patent rights or copyrights held by the other. The Contractor shall indemnify and hold harmless the Authority and the AC and anyone directly or indirectly employed by any of them from and against all claims, damages, losses, and expenses (including attorney's fees) arising out of any infringement of patent rights or copyrights incident to the use in the performance of this work or resulting from the incorporation in the work of any invention, design, process, product, or device. This indemnification and hold harmless obligation shall be separate from and independent of any other obligations of the contractor to indemnify and hold the Authority and the AC and anyone directly or indirectly employed by them harmless from and against all claims, cost, obligations, or expenses.

B. Regulatory Compliance

1. The Contractor shall assume full responsibility and liability for compliance with all applicable Federal, New Jersey, and County regulations pertaining to work practices, hauling, disposal, and protection of the site. The Contractor is responsible for providing medical examinations and maintaining records of personnel as required by the applicable Federal, New Jersey, and County regulations. The Contractor shall hold the Authority and AC harmless for failure to comply with any applicable work, hauling, disposal, safety, health, or other regulations on the part of himself, his employees, or his subcontractors.

C. Asbestos Removal - Documentation And Notification

1. Permits and Notification

a. The Contractor will prepare all notifications required by the New Jersey, and EPA based upon these Specifications, and will submit them to the appropriate agency. Send written notification required by N.J.A.C. 5:23-8 to the Department of Community Affairs within three (3) days of issuance of the construction permit for asbestos abatement. Send notification to:

New Jersey Department of Community Affairs
Division of Codes and Standards
Bureau of Code Services
Asbestos/Lead Safety Unit
101 South Broad Street
PO Box 816
Trenton, NJ 08625-0816

b. The Contractor shall obtain all permits required by Federal, New Jersey, and/or County regulatory agencies or jurisdictions for the transportation and disposal of asbestos-containing materials. The removal of asbestos shall require a construction permit in accordance with N.J.A.C. 5:23-8.5. Additionally, a demolition permit must be obtained pursuant to N.J.A.C. 5:23-2.

c. The Contractor shall post one copy of all permits at the work site and keep on file at the Contractor's office one copy of each.

d. The Contractor shall submit written certification to the AC prior to the commencement of work that the required permits, site location, and arrangements for transportation and disposal of asbestos-containing wastes have been made.

2. Contractor Documentation

a. The Contractor shall submit copies of all transport manifests, trip tickets and disposal receipts to the AC for all asbestos-containing wastes removed from the property, within ten (10) days of such removal.

b. The Contractor shall submit documentation to the AC prior to the commencement of work that the contractor's employees, including foreman, supervisors, and any other company personnel or agents who may be exposed to airborne asbestos have received the following:

(1) Training as required by OSHA 29 CFR 1926.1101 (k) (3).

(2) Medical surveillance as required by OSHA 20 CFR 1926.1101(m) and have been determined by a physician to be physically able to wear required respiratory protection.

(3) Respirator fit testing as required by OSHA 29 CFR 1926.1101 (h) (4).

(4) New Jersey Asbestos and Permits.

c. The Contractor shall submit to the AC prior to the commencement of Work the names and Social Security numbers of the Contractor's employees, as defined in Section 1.3.3.

d. The Contractor shall submit the identity and qualifications of his designated "competent person" to be on-site during removal work as required by OSHA 29 CFR 1926.1101 (e) (6) (ii) and the individual or firm that will be conducting his employee exposure monitoring as required by OSHA 29 CFR 1926.1101 (f) to the AC prior to the commencement of work.

e. The Contractor shall have in his possession, on-site, copies of the above referenced regulations, as well as, a copy of the Contractor's asbestos training and work practices manual, written respirator program, and these Specifications.

f. The Contractor shall maintain a daily log within the Decontamination Unit documenting the dates and times of the following items: visitations; authorized and unauthorized Personnel; by name, entering and leaving the work area.

g. The QP shall maintain a daily project logbook documenting the following:

(1) Meetings: purpose, attendees, discussion (brief)

(2) Inspection of work area; preparation, prior to start of removal and daily, thereafter

(3) Special or unusual events, i.e., barrier breaching, equipment failures

(4) Removal of any polyethylene barriers

(5) Contractor's inspections prior to encapsulation or removal

(6) Quantity of asbestos abatement completed

(7) Personal air monitoring results

(8) Removal of waste materials from work area

(9) Decontamination of equipment (list items)

(10) Contractor final inspection

3. Licenses

a. Maintain current licenses as required by applicable Federal, and New Jersey regulatory agencies or jurisdictions for the removal, transporting, disposal, and/or other regulated activity relative to the work of this contract.

b. Posting and Filing of Licenses: Maintain two (2) copies of applicable Federal, and New Jersey licenses described above. Post one copy of each at the job site and keep on file in Subcontractor's office one copy of each.

D. Description of Work

1. The work covered by this section includes the handling and control of asbestos containing materials and describes some of the resultant procedures and equipment required to protect workers, the environment and occupants of the building or area, or both, from contact with airborne asbestos fibers. The work also includes the disposal of any asbestos containing materials generated by the work. More specific operational procedures shall be outlined in the Asbestos Hazard Abatement Plan called for elsewhere in this specification. The scope of work will require all asbestos containing materials to be abated in the identified building. The following table is a general reference list of ACM identified in the building. This general reference list is not all-inclusive. The intent of this list and abatement work is to remove the asbestos from an area and make the area "asbestos-free".

Office/Cashier Building Route 9 & 524, Freehold, NJ			
ACM	**Location**	**Approximate Quantity**	**Percent Asbestos**
Tar roofing	Roof	198 sq. ft.	1.4% Chrysotile

2. The Contractor shall be required to remove all asbestos containing debris associated with the above referenced materials. Under normal conditions non-friable or chemically bound materials containing asbestos would not be considered hazardous; however, this material may release airborne asbestos fibers during the demolition and therefore must be handled in accordance with the removal and disposal procedures as specified herein.

3. The Contractor shall not damage areas outside of their work areas. Close coordination with the Authority and AC is required.

E. Medical Requirements

1. Provide medical requirements including but not limited to medical surveillance and medical record keeping as listed in 29 CFR 1926.1101.

a. Medical Examinations

1) Before exposure to airborne asbestos fibers, provide workers with a comprehensive medical examination as required by 29 CFR 1926.1101 or other pertinent New Jersey or County directives. This requirement must have been satisfied within the 12 months prior to the start of work on this contract. The same medical examination shall be given on an annual basis to employees engaged in an occupation involving asbestos and within 30 calendar days before or after the termination of employment in such occupation. Specifically identify x-ray films of asbestos workers to the consulting radiologist and mark medical record jackets with the word "ASBESTOS."

b. Medical Records

1) Maintain complete and accurate records of employees' medical examinations, medical records, and exposure data for a period of 50 years after termination of employment and make records of the required medical examinations and exposure data available for inspection and copying to: The Assistant Secretary of Labor for Occupational Safety and Health (OSHA), or authorized representatives of them, and an employee's physician upon the request of the employee or former employee.

F. Training

1. Train all personnel involved in the asbestos control work in accordance with United States Environmental Protection Agency (USEPA), Asbestos

Hazard Emergency Response Act (AHERA) training criteria or New Jersey training criteria whichever is more stringent. The Contractor shall document the training by providing: dates of training, training entity, course outline, names of instructors, and qualifications of instructors upon request by the Authority. Furnish each employee with respirator training and fit testing as required by 29 CFR 1926.1101. Fully cover engineering and other hazard control techniques and procedures.

G. Permits, Licenses, and Notifications

1. Obtain necessary permits and licenses in conjunction with asbestos removal, encapsulation, hauling, and disposition, and furnish notification of such actions required by Federal and New Jersey authorities prior to the start of work. Notify the United States Environmental Protection Agency (USEPA) Region 2, and the AC in writing 10 working days prior to commencement of work in accordance with 40 CFR 61-SUBPART M.

H. Environment, Safety and Health Compliance

1. In addition to detailed requirements of this specification, comply with those applicable laws, ordinances, criteria, rules, and regulations of Federal and New Jersey authorities regarding handling, storing, transporting, and disposing of asbestos waste materials. Comply with the applicable requirements of the current issue of 29 CFR 1926.1101, 40 CFR 61-SUBPART A, and 40 CFR 61-SUBPART M. Submit matters of interpretation of standards to the appropriate administrative agency for resolution before starting the work. Where the requirements of this specification, applicable laws, rules, criteria, ordinances, regulations, and referenced documents vary, the most stringent requirement shall apply. The following laws, ordinances, criteria, rules and regulations regarding removal, handling, storing, transporting and disposing of asbestos materials apply:

a. OSHA

b. EPA

c. DOT

d. NJAC

e. NJDEP

I. Respirator Program

1. Establish and implement a respirator program as required by ANSI Z88.2, 29 CFR 1926.1101, and 29 CFR 1926.103. Submit a written description of the program to the AC.

J. Asbestos Hazard Control Supervisor

1. The Contractor shall be represented on site by a supervisor, trained using the model Contractor accreditation plan as indicated in the Federal statutes for all portions of the herein listed work.

K. Hazard Communication

1. Adhere to all parts of 29 CFR 1926.59 and provide the AC with a copy of the Material Safety Data Sheets (MSDS) for all materials brought to the site.

L. Contingency Plans and Arrangements

1. Prepare a contingency plan for emergencies including, but not limited to, fire, accident, failure of power, failure of air filtration system, or any other event that may occur. Include specific procedures to ensure safe exiting and to provide medical attention in the event of an emergency. Post the telephone numbers and locations of emergency services including fire, ambulance, hospital, police, and power company.

1.4 SUBMITTALS

Submit the following.

A. SD-02, Manufacturer's Catalog Data

1. Local exhaust equipment

2. Vacuums

3. Respirators

4. Amended water

5. Material Safety Data Sheets (MSDS) for all materials proposed for transport to the project site

6. Encapsulants

7. Fire Extinguishers

8. Scaffolding

B. SD-08, Statements

1. Asbestos hazard abatement plan

2. Testing laboratory

3. Private qualified person documentation

4. Landfill approval

5. Employee training

6. Medical certification requirements

7. Waste shipment records and if applicable exemption report

8. Respiratory Protection Program

9. Hazardous waste manifest

a. Asbestos Hazard Abatement Plan

1) Submit a detailed plan of the safety precautions such as lockout/tagout, fall protection, first aid, and confined space entry procedures and equipment and work procedures to be used in the removal and demolition of materials containing asbestos. The plan shall be prepared, signed, and sealed by the Contractor. Such plan shall include but not be limited to the precise personal protective equipment to be used including, but not limited to, respiratory protection, type of whole-body protection, the location of asbestos control areas including clean and dirty areas, buffer zones, showers, storage areas, change rooms, removal method, interface of trades involved in the construction, sequencing of asbestos related work, disposal plan, type of wetting agent and asbestos sealer to be used, locations of local exhaust equipment, planned air monitoring strategies, and a detailed description of the method to be employed in order to control environmental pollution. The plan shall also include (both fire and medical emergency) response plans and the location and use of fire extinguishers. The Asbestos Hazard Abatement Plan must be approved in writing prior to starting any

asbestos work. The Contractor shall meet with the AC prior to beginning work, to discuss in detail the Asbestos Hazard Abatement Plan, including work procedures and safety precautions. Once approved by the AC, the plan will be enforced as if an addition to the specification. The AC prior to starting work shall identify any changes required in the specification as a result of the plan specifically in the plan to allow for free discussion and approval.

b. Testing Laboratory

1) Submit the name, address, and telephone number of each testing laboratory selected for the analysis, and reporting of airborne concentrations of asbestos fibers along with evidence that each laboratory selected holds the appropriate New Jersey license and/or permits and certification that each laboratory is American Industrial Hygiene Association (AIHA) accredited and that persons counting the samples have been judged proficient by current inclusion on the AIHA Asbestos Analysis Registry (AAR) and successful participation of the laboratory in the Proficiency Analytical Testing (PAT) Program. Where analysis to determine asbestos content in bulk materials or transmission electron microscopy is required, submit evidence that the laboratory is accredited by the National Institute of Science and Technology (NIST) under National Voluntary Laboratory Accreditation Program (NVLAP) for asbestos analysis.

c. Qualified Person Documentation

1) Submit the name, address, and telephone number of the Qualified Person (QP) selected to prepare the Asbestos Hazard Abatement Plan, direct monitoring and training, and documented evidence that the QP has successfully completed training in and is accredited and where required is certified as, a Building Inspector, Contractor/Supervisor Abatement Worker, and Asbestos Project Designer as described by 40 CFR 763 or has successfully completed the National Institute of Occupational Safety and Health (NIOSH) 582 course "Sampling and Evaluating Airborne Asbestos Dust" or equivalent. The QP shall be appropriately licensed in the State of New Jersey.

d. Landfill Approval

1) Submit written evidence that the landfill for disposal is approved for asbestos disposal by the USEPA and New Jersey regulatory agency(s). Submit to the AC, waste shipment records, prepared in accordance with Federal regulations, signed and dated by an agent of the landfill, certifying the amount of asbestos materials delivered to the landfill, within 3 days after delivery.

e. Employee Training

1) Submit certificates signed by each employee indicating that the employee has received training in the proper handling of materials and wastes that contain asbestos in accordance with 40 CFR 763 and New Jersey requirements; understands the health implications and risks involved, including the illnesses possible from exposure to airborne asbestos fibers; understands the use and limits of the respiratory equipment to be used; and understands the results of monitoring of airborne quantities of asbestos as related to health and respiratory equipment as indicated in 29 CFR 1926.1101 on an initial and annual basis.

f. Medical Certification

1) Provide a written certification for each worker and supervisor, signed by a licensed physician indicating that the worker and supervisor has met or exceeded all of the medical prerequisites listed herein and in 29 CFR 1926.1101 and 29 CFR 1926.103 as prescribed by law.

g. Respiratory Protection Program

1) Submit a written program manual or operating procedure including methods of compliance with regulatory statutes.

C. SD-12, Field Test Reports

1. Air sampling results

2. Pressure differential recordings for local exhaust system per

3. Asbestos disposal quantity report

4. Clearance sampling

a. Air Sampling Results

1. Complete fiber counting and provide results to the QP and AC for review within 16 hours of the "time off" of the sample pump. Notify the AC immediately of any airborne levels of asbestos fibers in excess of the acceptable limits. Submit sampling results to the AC and the affected Contractor employees where required by law within 3 working days, signed by the testing laboratory employee performing air sampling, the employee that analyzed the sample, and the QP and AC.

D. SD-13, Certificates

1. Show compliance with ANSI Z9.2 by providing manufacturers' certifications.

a. Vacuums

b. Water filtration equipment

c. Ventilation systems

d. Other equipment used to contain airborne asbestos fibers

e. Chemical encapsulants sealers

E. SD-18, Records

1. Notifications

2. Rental equipment

3. Respirator program records

4. Permits and licenses

a. Notifications

1) Notify the AC, New Jersey and other appropriate Government agencies in writing 10 working days prior to the start of asbestos work as indicated in applicable laws, ordinances, criteria, rules, and regulations.

b. Rental Equipment

1) Provide a copy of the written notification to the rental company concerning the intended use and possible asbestos contamination of the equipment.

c. Respirator Program Records

1) Submit records of the respirator program as required by ANSI Z88.2, 29 CFR 1926.103, and 29 CFR 1926.1101.

PART 2

2- PRODUCTS

2.1 ENCAPSULANTS

Shall conform to current USEPA requirements, shall contain no toxic or hazardous substances as defined in 29 CFR 1926.59, and shall conform to the following performance requirements.

A. Removal Encapsulants

Requirement	Test Standard
Flame Spread-25, Smoke Emission-50	ASTM E 84
Life Expectancy-20 years	ASTM C 732 Accelerated Aging Test
Permeability-Minimum 0.4 perms	ASTM E 96

B. Lock-down Encapsulant

Requirement	Test Standard
Flame Spread:25, Smoke Emission-50	ASTM E 84
Life Expectancy: 20 years	ASTM C 732 Accelerated Aging Test
Permeability: Minimum 0.4 perms	ASTM E 96
Fire Resistance: Negligible affect on fire resistance rating over 3 hour test (Tested with fireproofing over	ASTM E 119

encapsulant applied directly to steel member)
Bond Strength: 1459 N of force/meter (100 pounds of force/foot) (Tests compatibility with cementitious and fibrous fireproofing) ASTM E 736

PART 3

3 - EXECUTION

3.1 EQUIPMENT

At all times, provide the AC, with at least two complete sets of personal protective equipment as required for entry to and inspection of the asbestos control area. Provide manufacturers' certificate of compliance for all equipment used to contain airborne asbestos fibers.

A. Respirators

1. The Contractor shall administer a respiratory protection program as required by OSHA (29 CFR 1910.134). The Contractor shall provide individual respirators, from those approved by the National Institute for Occupational Safety and Health (NIOSH), Department of Health and Human Services, for each employee. The Contractor shall require all employees to wear Powered Air Purifying Respirators (PAPR) inside the work area for the duration of the project, or unless acceptable levels have been established through air sampling, as performed by the AC. The Contractor shall require that respiratory protection be used at all times there is any possibility of disturbance of asbestos-containing materials whether intentional or accidental, until the area has been cleared for re-occupancy. The Contractor shall not allow the use of single-use, disposal respirators for any purpose.

a. Respirators for Handling Asbestos

1) Provide personnel engaged in pre-cleaning, cleanup, handling, removal and demolition of asbestos materials with respiratory protection as indicated in 29 CFR 1926.1101 and 29 CFR 1926.103.

B. Exterior Whole Body Protection

1. Outer Protective Clothing

a. Provide personnel exposed to asbestos with disposable "non-breathable," whole body outer protective clothing, head coverings, gloves, and foot coverings. Provide disposable plastic or rubber gloves to protect hands. Cloth gloves may be worn inside the plastic or rubber gloves for comfort, but shall not be used alone. Make sleeves secure at the wrists, make foot coverings secure at the ankles, and make clothing secure at the neck by the use of tape.

2. Work Clothing

a. Provide cloth work clothes for wear under the outer protective clothing and foot coverings and either dispose of or properly decontaminate them as recommended by the AC after each use.

3. Eye Protection

a. Provide goggles to personnel engaged in asbestos abatement operations when the use of a full face respirator is not required.

C. Personal Decontamination

1. Provide a temporary, negative pressure unit with a separate decontamination room and clean room with a shower that complies with 29 CFR 1926.1101. Provide a separate decontamination area for personnel required to don and doff whole body protective clothing. Keep street clothing and street shoes a clean area. HEPA vacuum and remove asbestos contaminated disposable protective clothing while still wearing respirators at the boundary of the asbestos work area and seal in impermeable bags or containers for disposal.

D. Warning Signs and Labels

1. Provide warning signs printed in English at all approaches to asbestos control areas. Locate signs at such a distance that personnel may read the sign and take the necessary protective steps required before entering the area. Provide labels and affix to all asbestos materials, scrap, waste, debris, and other products contaminated with asbestos.

a. Warning Sign

1) Provide vertical format conforming to 29 CFR 1926.200, and 29 CFR 1926.1101 minimum 20 by 14 inches displaying the following legend in the lower panel:

Legend	Notation
Danger	1-inch Sans Serif Gothic or Block
Asbestos	1-inch Sans Serif Gothic or Block
Cancer and Lung Disease Hazard	¼ inch Sans Serif Gothic or Block
Authorized Personnel Only	¼ inch Gothic
Respirators and Protective Clothing Are Required in this Area	¼ inch Gothic

2) Spacing between lines shall be at least equal to the height of the upper of any two lines.

b. Warning Labels

1) Provide labels conforming to 29 CFR 1926.1101 of sufficient size to be clearly legible, displaying the following legend:

DANGER
CONTAINS ASBESTOS FIBERS
AVOID CREATING DUST
CANCER AND LUNG DISEASE HAZARD
BREATHING ASBESTOS DUST MAY
CAUSE SERIOUS BODILY HARM

F. Tools

1. Vacuums shall be leak proof to the filter and equipped with HEPA filters. Filters on vacuums shall conform to ANSI Z9.2 and UL 586. Do not use power tools to remove asbestos containing materials unless the tool is equipped with effective, integral HEPA filtered exhaust ventilation systems. Remove all residual asbestos from reusable tools prior to storage or reuse.

G. Rental Equipment

1. If rental equipment is to be used, furnish written notification to the rental agency concerning the intended use of the equipment and the possibility of asbestos contamination of the equipment.

3.2 WORK PROCEDURE

A. Asbestos abatement

1. Perform asbestos related work in accordance with 29 CFR 1926.1101, 40 CFR 61-SUBPART M, NJAC 5:23-8 and as specified herein. Use wet

removal procedures. Personnel shall wear and utilize protective clothing and equipment as specified herein. Eating, smoking, drinking, chewing gum, tobacco, or applying cosmetics shall not be permitted in the asbestos work or control areas. Personnel of other trades not engaged in the removal and demolition of asbestos containing material shall not be exposed at any time to airborne concentrations of asbestos unless all the personnel protection and training provisions of this specification are complied with by the trade personnel. If an asbestos fiber release or spill occurs outside of the asbestos control area, stop work immediately, correct the condition to the satisfaction of the AC including clearance sampling, prior to resumption of work.

2. Worker Protection

a. All persons entering the work area shall wear disposable coveralls and NIOSH-approved respirators with HEPA filters. Workers will remove protective equipment prior to leaving the work area and proceed to a remote shower facility for final decontamination.

B. Protection of Existing Work to Remain

1. Perform work without damage or contamination of adjacent work. Where such work is damaged or contaminated as verified by the AC using visual inspection or sample analysis, it shall be restored to its original condition or decontaminated by the Contractor at no expense to the Authority as deemed appropriate by the AC. This includes inadvertent spill of dirt, dust, or debris in which it is reasonable to conclude that asbestos may exist. When these spills occur, stop work immediately. Then clean up the spill. When satisfactory visual inspection and air sampling results are obtained, work may proceed at the discretion of the AC.

C. Asbestos Control Area Requirements

1. Scaffolding

a. The use of scaffolding is required by the Contractor to access the asbestos-containing materials. All scaffolding shall be erected in accordance with OSHA standard 29 CFR 1926.451. No scaffold shall be erected, moved, dismantled, or altered except under the supervision of competent persons.

D. Removal Procedures

1. Wet asbestos material with a fine spray of amended water during removal, cutting, or other handling, so as to reduce the emission of airborne fibers. Remove material and immediately place in 6-mil plastic disposal bags.

Remove asbestos containing material in a gradual manner, with continuous application of the amended water or wetting agent in such a manner that no asbestos material is disturbed prior to being adequately wetted. Where unusual circumstances prohibit the use of 6-mil plastic bags, submit an alternate proposal for containment of asbestos fibers to the AC for approval. Asbestos containing material shall be containerized while wet. At no time shall asbestos material be allowed to accumulate or become dry. Lower and otherwise handle asbestos containing material as indicated.

For roofing materials, provide a drop cloth below work area. The drop cloth should be below work area to catch any debris generated during removal. Set up ladder or scaffolding if needed. Seal over a penetrations, air intakes or windows in the work area with polyethylene sheeting. Spray roofing material with amended water prior to start of removal. Maintain roofing material in a wet condition throughout removal. Do not cut, abrade or break roofing material. Start at top of removal area, remove nails, or cut nails with a flat sharp nail cutter. Pry up edge of roofing material until edges can be gripped by hand. Remove roofing material and immediately place in 6-mil plastic disposal bags. Remove asbestos containing material in a gradual manner, with continuous application of the amended water or wetting agent in such a manner that no asbestos material is disturbed prior to being adequately wetted. Where unusual circumstances prohibit the use of 6-mil plastic bags, submit an alternate proposal for containment of asbestos fibers to the AC for approval. Asbestos containing material shall be containerized while wet. At no time shall asbestos material be allowed to accumulate or become dry. Lower and otherwise handle asbestos containing material as indicated in 40 CFR 61-SUBPART M. Continue removing roofing material using this procedure. Clean up any debris or dust using HEPA vacuuming and wet wiping.

E. Air Sampling

1. Sampling of airborne concentrations of asbestos fibers shall be performed in accordance with 29 CFR 1926.1101, NJAC 5:23-8 and as specified herein. The QP shall perform sampling performed in accordance with 29 CFR 1926.1101. Sampling performed for environmental and quality control reasons shall be performed by the AC. Unless otherwise specified, use NIOSH Method 7400 for sampling and analysis. The Authority may duplicate monitoring. If the air sampling results obtained by the Authority differ from those results obtained by the Contractor, the Authority will determine which results predominate.

   a. Sampling Prior to Asbestos Work

1) Provide area air sampling and establish the baseline one day prior to the masking and sealing operations for each removal site. Establish the background by performing area sampling in similar but uncontaminated sites in the building.

b. Sampling During Asbestos Work

1) The QP shall provide personal sampling as indicated in 29 CFR 1926.1101 and governing regulations. At the same time the AC will provide area sampling close to the work area. In addition, provided the same type of work is being performed, the AC will provide area sampling once every work shift close to the work inside the work area and outside the work. If sampling outside the enclosure shows airborne levels have exceeded background or 0.01 fibers per cubic centimeter, whichever is greater, stop all work, and correct the condition(s) causing the increase. Where alternate methods are used, perform personal and area air sampling at locations and frequencies that will accurately characterize the evolving airborne asbestos levels.

F. Lock-Down

1. The Contractor shall request a pre-sealant inspection prior to removal of barriers and after pre-clearance clean up of gross contamination. The QP and AC shall conduct a visual inspection of all areas affected by the removal in accordance with ASTM E 1368 and NJAC 5:23-8. Inspect for any visible fibers. A post removal (lock-down) encapsulant shall then be spray applied to ceiling, walls, floors and other areas exposed in the removal area. The exposed area shall include but not be limited to plastic barriers, furnishings and articles to be discarded as well as dirty change room, air locks for bag removal and decontamination chambers.

G. Site Inspection

1. While performing asbestos engineering control work, the Contractor shall be subject to on-site inspection by the AC. If the work is found to be in violation of this specification, the AC will issue a stop work order to be in effect immediately and until the violation is resolved. All related costs including standby time required to resolve the violation shall be at the Contractor's expense.

The AC shall issue Certificate of Completion after final inspection. The Certificate of Completion shall be issued if:

1. All information is complete;
2. Final inspection is approved;
3. Final air monitoring levels as required by NJAC 5:23-8.21 or lower has been attained; and
4. All requirements of this specification and NJAC 5:23-8 have been met.

3.3 CLEAN-UP AND DISPOSAL

A. Housekeeping

1. Essential parts of asbestos dust control are housekeeping and clean-up procedures. Maintain surfaces of the asbestos control area free of accumulations of asbestos fibers. Give meticulous attention to restricting the spread of dust and debris; keep waste from being distributed over the general area. Use HEPA filtered vacuum cleaners. DO NOT BLOW DOWN THE SPACE WITH COMPRESSED AIR. When asbestos removal is complete, all asbestos waste is removed from the work-site, final clean-up is completed, and the final clearance inspection is acceptable, the AC will attest that the area is safe before the signs can be removed. The AC will visually inspect all surfaces within the work area for residual material or accumulated dust or debris. The Contractor shall re-clean all areas showing dust or residual materials. If re-cleaning is required, air sample and establish an acceptable asbestos airborne concentration after re-cleaning. The AC must agree that the area is safe in writing before unrestricted entry will be permitted. The Authority shall have the option to perform monitoring to determine if the areas are safe before entry is permitted.

B. Title to Materials

1. All waste materials, except as specified otherwise, shall become the property of the Contractor and shall be disposed of as specified in applicable New Jersey and Federal regulations and herein.

C. Disposal of Asbestos

1. Procedure for Disposal

a. Collect asbestos waste, asbestos contaminated water, scrap, debris, bags, containers, equipment, and asbestos contaminated clothing which may produce airborne concentrations of asbestos fibers and place in sealed fiber-proof, waterproof, non-returnable containers (e.g. double plastic bags 6-mils thick, cartons, drums or cans). Wastes within the containers must be adequately wet in accordance with 40 CFR 61-SUBPART M and NJAC 5:23-8 and NJAC 7:26. Affix a warning and Department of Transportation (DOT) label to

each container including the bags or use at least 6-mils thick bags with the approved warnings and DOT labeling preprinted on the bag. The name of the waste generator and the location at which the waste was generated shall be clearly indicated on the outside of each container. Prevent contamination of the transport vehicle (especially if the transport vehicle is a rented truck likely to be used in the future for non-asbestos purposes). These precautions include lining the vehicle cargo area with 6-mil plastic sheeting (similar to work area enclosure) and thorough cleaning of the cargo area after transport and unloading of asbestos debris is complete. Dispose of waste asbestos material at an Environmental Protection Agency (EPA) or State-approved asbestos landfill off Authority property. For temporary storage, store sealed impermeable bags in asbestos waste drums or skids. The Authority or AC will assign an area for interim storage of asbestos waste-containing drums or skids. This area must be lined with 6-mil plastic sheeting and placed under negative pressure for the duration of the interim storage. Procedure for hauling and disposal shall comply with 40 CFR 61-SUBPART M, New Jersey and other applicable standards. Sealed plastic bags may be dumped from drums into the burial site unless the bags have been broken or damaged. Damaged bags shall remain in the drum and the entire contaminated drum shall be buried. Uncontaminated drums may be recycled. Workers unloading the sealed drums shall wear appropriate respirators and personal protective equipment when handling asbestos materials at the disposal site.

2. Asbestos Disposal Quantity Report

   a. Direct the QP to record and report, to the AC, the amount of asbestos containing material removed and released for disposal. Deliver the report for the previous day at the beginning of each day shift with amounts of material removed during the previous day reported in linear meters or square meters (linear feet or square feet) as described initially in this specification and in cubic meters (feet) for the amount of asbestos containing material released for disposal Allow the AC to inspect, record and report the amount of asbestos containing material removed and released for disposal on a daily basis.

END OF SECTION